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Long-Term Unemployment : The Canadian Experience

Syed Sajjadur Rahman and Surendra Gera

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Long-Term Unemployment : The Canadian Experience

The findings of this paper are the personal responsibility of the authors and, as such, have not been endorsed by the Members of the Economic Council of Canada.

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Foreword

In spite of strong economic growth and job creation during the 1980s, the incidence of long-term unemployment has remained unusually high. Even in 1989, when the unemployment rate had returned to its 1981 level, the proportion of the labour force that had been continuously unemployed for a year or more was one-and-a-half times greater than in 1981.

Such prolonged periods of unemployment impose considerable social and private costs. For the individual, continuous unemployment creates a "scarring" effect, eroding work skills, reducing employment potential, and affecting morale. The persistence of long-term unemployment is also a sign that labour markets are not working efficiently.

This paper was commissioned by the Council as part of the Unemployment Issues project. It focuses on four aspects of the long-term unemployment phenomenon in Canada. The first three are the dimensions, causes, and macroeconomic implications of long-term unemployment. The other major section of the study is a review of the current policies aimed at reducing long-term unemployment, and suggestions for future policy directions.

The analyses indicate that the burden of long-term unemployment is unevenly distributed, especially among the different age groups and regions. The rising incidence of long-term unemployment among older workers is a major concern, particularly in view of the significant role these workers will play in our future labour force. Similarly, the geographical disparities in long-term unemployment experience have further compounded the regional imbalances in unemployment across Canada. Both of these dimensions deserve serious attention.

Syed Sajjadur Rahman and Surendra Gera are economists on the staff of the Economic Council of Canada.

Judith Maxwell
Chairman

Abstract

This paper examines and analyses the phenomenon of long-term unemployment (LTU) in Canada. The discussion centres around four questions: 1) Is LTU a problem in Canada? 2) What are the causes of LTU? 3) What are the macroeconomic implications of LTU? 4) What are the policies aimed at reducing LTU? The analysis draws on data from a wide range of sources including the Labour Force Survey, the Labour Market Activity Survey, the Annual Work Patterns Survey, and the gross flows data.

The Canadian unemployment situation in the 1980s was one where a few individuals experienced long spells of unemployment. The increase in the incidence of LTU that took place during the 1981-82 recession has persisted during the recovery and expansion over the period 1983-89. This has led to an increasing concentration of time spent unemployed among the long-term unemployed.

There are distributional concerns as well. All regions have experienced higher incidences of LTU since the last recession. In addition, the regional disparities in unemployment experiences have been compounded by the different incidences of LTU. Among the age groups, the older workers have been the most affected by LTU.

Finally, if the experience over the current business cycle is any indication, it is likely that the incidence of LTU will increase further in the next economic downturn and will continue at this higher level during the ensuing recovery process.

The persistence of unemployment during the latter part of the expansionary period has been due to a relative decline in the outflow rates from the unemployment pool, especially for the adult workers aged 25 and over. The outflow patterns in the regions reflected the uneven recovery process during the period 1983-89. In particular, in the western provinces in 1989, the inflow rates remained above and the outflow rates significantly below their 1981 levels. The outflow rates in the Atlantic provinces in 1989 were also below their 1981 levels.

The exit probability of the long-term unemployed (with unemployment spells of six months or more) is significantly lower than that of the short-term unemployed (with unemployment spells of less than three months); the divergence between these probabilities has increased since the 1981-82 recession. Among the age groups, the long-term unemployed older workers had

the hardest time getting out of unemployment. Not only were their chances of escape lowest, the exit probability for this group also declined significantly in the 1980s. For the other age groups, even though LTU was a difficult predicament, the position was not hopeless. On a regional basis, the chance of continuing a long spell of unemployment was highest in Quebec.

The decline in exit rates was due to several factors. While the recent expansionary period witnessed the creation of significant new employment, the evidence suggests that the existing adult long-term unemployed did not benefit from it. Another important factor was the changing nature of jobs, including the emergence of the service sector as the predominant employer, the growing importance of non-standard work such as part-time jobs, and changing skill requirements that resulted in mismatches between labour demand and labour supply.

The analysis indicates that the long-term unemployed exerted no pressure on wages during the 1980s. This result suggests that policies that encourage the long-term unemployed to become part of the effective labour force will, by increasing the (effective) labour supply, increase employment and reduce wages. In terms of the Phillips curve, measures to reduce LTU will then reduce the natural rate without causing any inflationary pressures.

In Canada, the Job Development Program under the auspices of the Canadian Job Strategy, combined with the placement, counselling, and other activities of the Canada Employment Centres, provide comprehensive and interlinked assistance to the long-term unemployed. They combine elements that increase the competitiveness of and provide employment opportunities to these workers by emphasizing training and work experience. Overall, the program has been fairly successful if participation rates are used as a criterion. There are, however, two concerns with these programs. The first relates to the "24 weeks out of the 30" eligibility rule. An analysis of the probabilities of exit out of unemployment indicates it might be more efficient to reduce the eligibility period to about four months. The second is that the program does not specifically target the older long-term unemployed, the group most prone to LTU and in most need of help. In addition, the increasing age profile of the Canadian labour force suggests that older workers will become increasingly important to the economy. The Job Development Program should, then, provide special emphasis on integrating long-term unemployed older workers into the labour force.

Introduction

In 1989, the Canadian unemployment rate at last came down to its pre-recessionary 1981 level. The persistence of high unemployment throughout most of the 1980s was the result of the severity of the 1981-82 recession, as well as a transformation of the industrial structure over this business cycle. The severity of the recession led to unprecedented inflows into the unemployment pool. The transformation of the industrial structure created labour market mismatches that prevented a large number of the unemployed from exiting the pool for long periods of time. The result of these processes has been a structural change in Canadian labour markets.

A major outcome of this process of structural change has been an increase in the incidence of long-term unemployment. In 1989, individuals who were continuously unemployed for a year or more comprised 6.6 per cent of the total number of unemployed. While this proportion has been declining since 1985, it has remained much higher than its 1981 level of 3.5 per cent.

Extended periods of unemployment impose considerable social and private costs. For society, the presence of significant LTU deters the efficient functioning of the labour market by marginalizing a portion of the labour force and increasing the costs of unemployment insurance and other social programs. For the individual, continuous unemployment for long periods erodes work skills, reduces the possibility of further employment, and ultimately creates a morale problem. The consequences of LTU are not confined to these immediate costs. The morale problems and the marginalization of the long-term unemployed from the effective labour force can give rise to social attitudes which "over time would slow down adjustment to changing economic structures and reduce the potential for economic growth" [OECD, 1988*a*, p. 95].

This paper examines and analyses the evidence about LTU in Canada. The discussion centres around four questions:

1 Is LTU a problem in Canada?

2 What are the causes of LTU?

3 What are the macroeconomic implications of LTU?

4 What are the policies aimed at reducing LTU?

The first methodological issue that needs to be addressed in an analysis of LTU is its definition. The current OECD convention defines LTU as continuous unemployment of one year or more. However, it has also been argued that in some countries, such as Canada, the United States, Japan, and Scandinavia, a

criterion of six months continuous unemployment, which substantially exceeds the average duration of spells of unemployment [OECD, 1988*a*], may be more appropriate. This paper presents evidence on both definitions of LTU as and when appropriate.

The discussion proceeds as follows. The second section examines the various dimensions of the LTU phenomenon in Canada to analyse whether LTU is a significant problem there. The third section analyses the reasons for LTU in Canada. The macroeconomic implications of LTU are discussed in the fourth section. The policies undertaken in Canada to alleviate LTU are examined in the fifth section. Finally, section six states the conclusions of the study.

The Dimensions of Long-Term Unemployment in Canada

The most noticeable trend in recent Canadian unemployment experience has been the significant increase in the duration of unemployment spells. Between 1979 and 1989, when unemployment rates stayed about the same, the average duration of unemployment for all age groups, as measured by the duration of incomplete spells from the Labour Force Survey data,[1] rose by about 27 per cent to reach 17.9 weeks in 1989 (Table 1). The average duration of an unemployment spell was as high as 21.8 weeks in 1983. The duration of unemployment experience has been non-neutral among the different age groups over the recent business cycle (1981-89). In 1989, the duration for older workers aged 45 and over was more than twice that of the 15-24 age group. In addition, while the average duration of unemployment fell over the business cycle for the youth aged 15-24, it rose for the older workers.

One major reason for the increase in the duration of unemployment is the increase in the proportion of individuals experiencing prolonged unemploy-

Table 1

Average Duration of Unemployment in Canada, 1979-89[1]

	1979	1981	1983	1985	1986	1987	1988	1989
	(Average number of weeks unemployed)							
All age groups	14.1	15.1	21.8	21.7	20.3	20.5	18.3	17.9
15-24	12.9	13.0	18.4	15.7	14.4	14.2	12.0	11.3
25-44	14.3	15.9	23.1	23.1	21.5	21.8	19.4	19.0
45 and over	18.9	19.3	26.7	29.7	28.9	28.5	26.1	25.4

1 Duration of incomplete spells.

Source Statistics Canada, *The Labour Force*, Cat. 71-001 (various issues).

ment (Table 2). For example, the percentage of the total unemployed who were continuously unemployed for 12 months or more was 3.5 per cent in 1979. The recession of the early 1980s caused a dramatic increase in this percentage, albeit with a lag. The proportion of the total unemployed these individuals represented reached a high of 10.1 per cent in 1985; since then it has been declining, reaching 6.6 per cent in 1989.

Table 2

Incidence of Long-Term Unemployment and Unemployment Rates, Canada, 1976-89

		Incidence of long-term unemployment[1]	
	Unemployment rate	Six months and over	Twelve months and over
1976	7.1	13.5	4.0
1977	8.1	14.7	3.5
1978	8.3	16.4	3.4
1979	7.4	15.0	3.5
1980	7.5	15.0	3.7
1981	7.5	15.6	4.3
1982	11.0	19.8	5.1
1983	11.8	28.0	9.6
1984	11.2	26.1	9.9
1985	10.5	25.6	10.1
1986	9.5	23.5	8.8
1987	8.8	23.6	9.2
1988	7.8	20.2	7.1
1989	7.5	20.1	6.6

1 Percentage of total unemployed accounted for by individuals unemployed for these periods.
SOURCE Statistics Canada, *The Labour Force*, Cat. 71-001 (various issues).

While the proportion of LTU in 1989 was substantially higher compared to its historical standards, the long-term unemployed formed a small proportion of the overall unemployed. This small proportion may suggest that the incidence of LTU is not a serious policy problem in Canada. A second factor that might lend credence to this argument is that the proportion of LTU varies in the same direction as the aggregate unemployment rate. The latter factor may predicate against any specific policies aimed at the long-term unemployed. Rather, the policy focus may well be the overall level of unemployment.

The remainder of this section examines the various dimensions of LTU in Canada to assess whether it does constitute a problem. Several factors influence

the answer to this question. It can be argued that aggregate trends such as the ones presented above tend to mask the policy concerns associated with LTU. For example, while the overall incidence of LTU may be relatively small, the incidence may be significant in some demographic groups or regions. The small incidence may also hide the fact that the individuals who are long-term unemployed bear the major burden of unemployment. In addition, LTU may generate persistence of unemployment. This will happen if LTU declines at a slower rate than the unemployment rate during the recovery and expansionary periods.

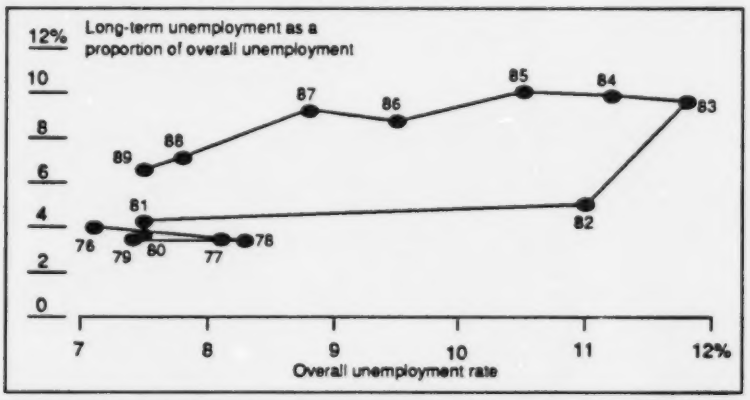
Long-Term Unemployment and the Unemployment Rate

While there is a positive correlation between the aggregate unemployment rate and the proportion of the long-term unemployed, the movements in the two variables are not symmetric. The proportion rises as the aggregate unemployment rate rises. However, when the unemployment rate falls, as it did in Canada during the period 1984-89, the proportion does not fall, at least not initially. The typical pattern that emerges is that of a hook. Chart 1 illustrates this pattern. Here LTU is defined as the proportion of the unemployed who were continuously unemployed for 12 months or more.

The labour market dynamics that led to the emergence of a hook took place in three chronological steps in Canada. Unemployment increased during the recessionary period 1981-82 (step 1). Initially, due to the rise in the inflow into unemployment, the proportion of the long-term unemployed fell. However, a proportion of the new entrants into unemployment moved into a LTU

Chart 1

Long-Term Unemployment, Canada, 1976-89



phase in the next year, and the proportion of the long-term unemployed rose (step 2). The proportion continued to rise steeply in 1982-83, although the rate of growth of the aggregate unemployment rate slowed. The aggregate unemployment rate declined during the 1983-89 period. However, outflows of the long-term unemployed were still not sufficient to reduce the proportion of the long-term unemployed in total unemployment to its pre-recessionary level (step 3).

The asymmetric response of LTU over the business cycle is also reflected in the contribution this group makes to the unemployment rate (Table 3). For example, while the Canadian unemployment rate rose by about 60 per cent between 1981 and 1983, the contribution of those individuals reporting themselves out of work for 12 months or more to the unemployment rate quadrupled. In contrast, while in 1989 the unemployment rate fell to 7.5 per cent, a level last observed in 1981, the contribution of the long-term unemployed has not yet gone back to its 1981 levels.

What is disturbing about the current high proportion is the persistence of LTU well into the expansionary periods. The experience over the recent

Table 3

Unemployment Rate by Duration of Employment, Canada, 1976-89

		Contribution to the total unemployment rate by individuals unemployed for:		
	Unemployment rate	4-26 weeks	27-52 weeks	53+ weeks
	(Per cent)		(Per cent)	
1976	7.4	5.9	0.8	0.2
1977	8.1	6.6	0.9	0.2
1978	8.3	6.7	1.1	0.3
1979	7.4	6.0	0.8	0.3
1980	7.5	6.1	0.8	0.3
1981	7.5	6.1	0.8	0.3
1982	11.0	8.6	1.6	0.6
1983	11.8	8.3	2.2	1.1
1984	11.2	8.1	1.8	1.1
1985	10.5	7.6	1.6	1.1
1986	9.5	7.1	1.4	0.8
1987	8.8	6.5	1.3	0.8
1988	7.8	6.0	1.0	0.5
1989	7.5	5.8	1.9	0.5

SOURCE Statistics Canada, *The Labour Force*, Cat. 71-001.

business cycle suggests that LTU increases sharply during a recession but declines very slowly during the expansionary period. This pattern raises the possibility that (i) the proportion will increase from its current levels in the next downturn of the business cycle and (ii) when it does, the higher proportion will become the benchmark.

The Disaggregated Incidence of Long-Term Unemployment in Canada

The LTU varies among geographic regions and demographic groups. In some cases, the incidence may be large enough to be of concern. In the Canadian case, the disparities were significant across the regions and age groups.

Regional Trends

The disparity in regional unemployment rates among the provinces is generally reflected in their LTU experiences (Chart 2). In 1989, the incidence of LTU (defined here as continuous unemployment of 12 months or more) in Quebec and British Columbia was well above the national average. The proportions for Ontario and the Prairie provinces were lower than the national average, conforming to the relative movements in their unemployment rates. The one exception to the pattern was the Atlantic provinces. While unemployment rates there were higher than the national unemployment rate, the proportion of LTU in these provinces was generally below the national average. The proportion of LTU is now higher than pre-recessionary levels in all the regions except Ontario.[2]

A major reason for the persistence of LTU in Quebec and British Columbia is the industrial restructuring these provinces underwent in the 1980s. In Quebec, another reason may be the cultural and language differences leading to relative labour immobility. The British Columbia economy has suffered from a prolonged decline in the international prices of primary goods. Finally, the uneven recovery from the recession in the early 1980s has also contributed to the persistence of LTU in the different regions.

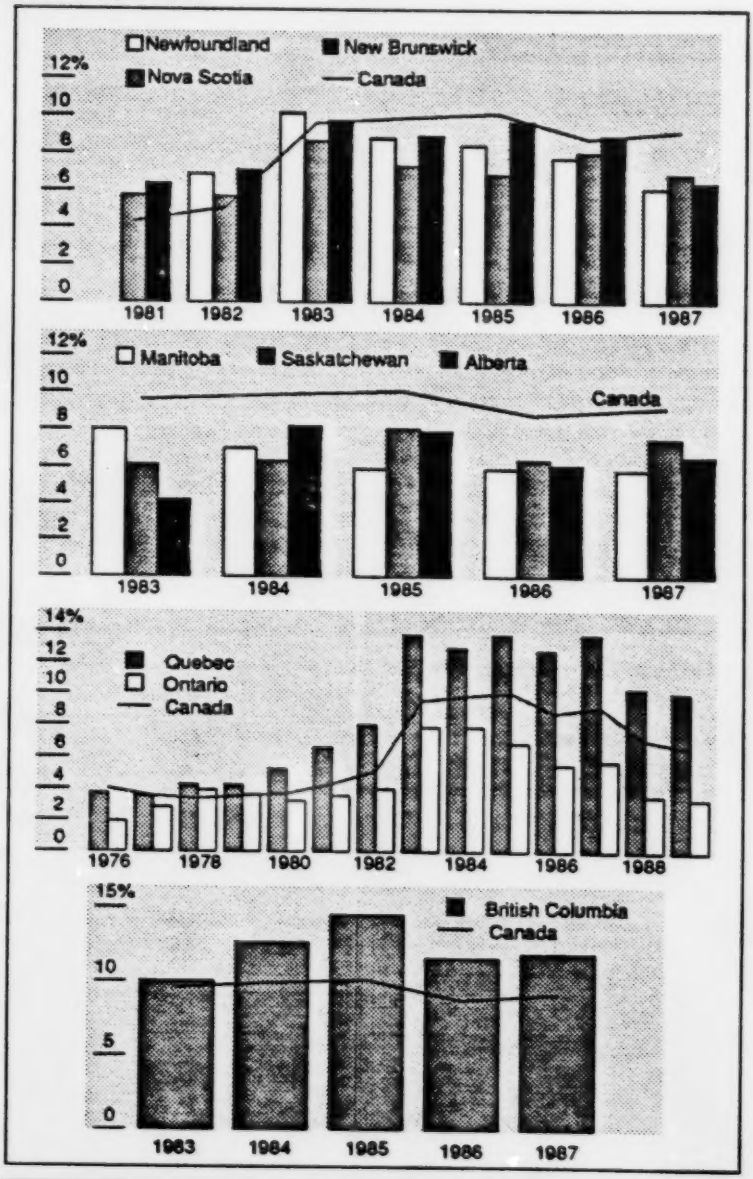
The regional differences in LTU experience compound the regional disparities in unemployment. In addition, the persistence of LTU in all regions (except Ontario) is a manifestation of increased mismatches in their labour markets. The recent LTU experience is thus both a cause and a symptom of labour market maladjustments in the regions.

Demographic Trends

Many personal attributes influence an individual's chances of becoming long-term unemployed. They include age, sex, marital status, education, and

Chart 2

Incidence of Long-Term Unemployment in the Provinces, 1976-89



industrial and occupational characteristics. The most noticeable disparities in the incidence of LTU in Canada have occurred among the different age groups.[3]

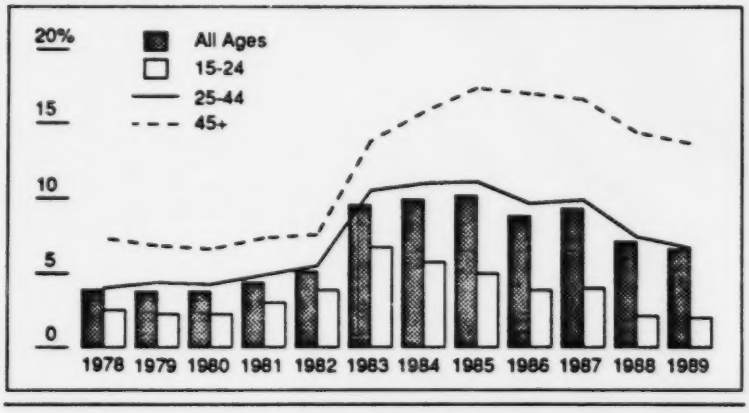
The incidence of LTU tends to rise with age (Chart 3). Young people (aged 15-24) were the least affected by LTU. The major reasons for this may be the easing of pressures in the youth labour markets due to the changing age structure of the population, and their increased participation in education. Another reason may be the tendency for the youth to separate from employment and unemployment at much higher rates and to leave the labour force in much greater proportions than do the other age groups [Hasan and de Broucker, 1985].

The older workers (aged 45 and over) and the prime-aged group (aged 25-44) experienced larger increases in the incidence of LTU in the 1980s. On the whole, the former were most affected. The number of long-term unemployed older workers rose from 10,000 in 1981 to 26,000 in 1989. Several factors may have contributed to this increase. Individuals in this group, once unemployed, may face discrimination in hiring. It may be more difficult for them to adapt to changing skill requirements of the workplace. Their relocation costs may also be considerably higher. In addition, the rising participation rate of this group increases the competition for jobs within the group, creating further outflow problems for the unemployed.

The evidence on the composition of the LTU by age group suggests that while the prime-aged group accounts for the major portion of the long-term

Chart 3

Proportion of Long-Term Unemployment, by Age Group, Canada, 1978-89



unemployed, the share of the older workers is steadily growing (Chart 4). The pattern is especially evident in Quebec and British Columbia. In Quebec, older workers accounted for about 35 per cent of the total number of long-term unemployed in 1989; whereas they accounted for 25 per cent in 1983. In British Columbia, the numbers were 40 per cent in 1989 and 21 per cent in 1983.

The dramatic rise in the incidence of LTU among older workers suggests that they have significant adjustment problems. The persistence of LTU in this group also indicates that these problems were not resolved by the general economic recovery of 1983-89.

The Concentration of Unemployment among the Long-Term Unemployed

An important dimension of unemployment is the distribution of the time spent unemployed among the various groups. If the major portion of the time spent unemployed is accounted for by individuals with short spells of unemployment, the unemployment problem may be frictional. In that case, special policy mechanisms are not required. However, if a major proportion of the total time spent unemployed is due to the long-term unemployed, the unemployment problem may be termed structural, and labour market policies may be required to alleviate the problem. The concentration of unemployment among the small number of long-term unemployed is also an indication of the unequal sharing of the burden of unemployment.

Corak [1990*a*] has calculated the concentration of unemployment among the long-term unemployed. These calculations are based on annualized unemployment experiences of individuals and use data from the Annual Work Patterns Survey (AWPS) of 1977-80 and 1982-85 and the Labour Market Activity Survey (LMAS) of 1986-87. The use of annualized experiences enables one to consider recurrent spells of unemployment. The presence of recurrent spells of unemployment suggests that the same total amount of unemployment can be experienced during a year whether it be through a single spell or multiple spells. This is important in Canada where the incidence of multiple spells is more frequent than in other OECD countries [OECD, 1988*b*].

Table 4 presents evidence on the annual unemployment experience of individuals in Canada during the period 1977-80 and 1982-87.[4] Row 1 of the table reports the unemployment rate from the Labour Force Survey. Row 2 suggests that the number of individuals in the labour force who experienced some unemployment during a year amounted, on average, to more than one fifth of the labour force. There was a noticeable jump in this proportion during the immediate post-recessionary period, and it took a long time to come back to its pre-recessionary level. Rows 3, 4, and 5 depict the status of LTU in

Chart 4

Composition of Long-Term Unemployment, by Age Group, Canada, 1976-89

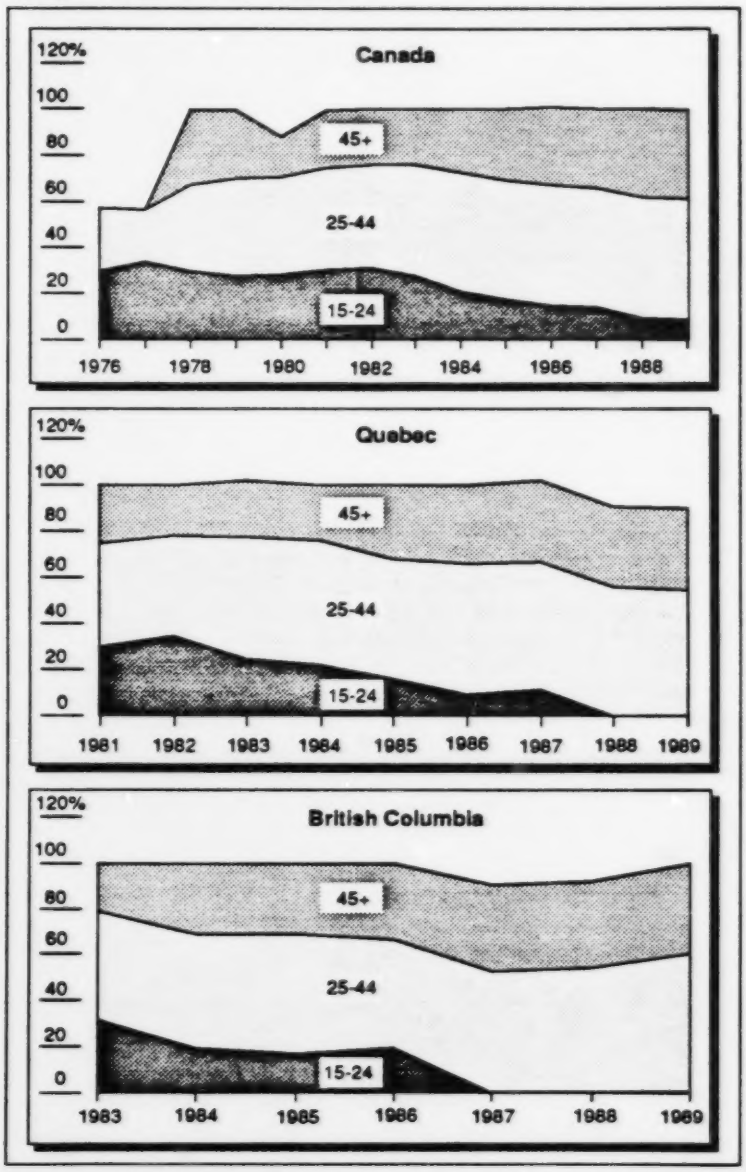


Table 4

Distribution of Annual Unemployment Experience, Canada, 1977-87

	1977	1978	1979	1980	1982	1983	1984	1985	1986	1987
1. Official unemployment rate	8.1	8.3	7.4	7.5	11.0	11.9	11.3	10.5	9.3	8.9
2. Proportion of the labour force experiencing some unemployment over the year	21.0	22.0	21.8	21.6	27.9	27.4	26.7	24.3	21.4	18.2
3. Proportion of the labour force with more than six months' unemployment over the year	4.5	3.8	3.1	3.3	7.0	7.8	6.8	6.1	6.2	4.2
4. Proportion of persons with some unemployment, with more than six months' unemployment over the year	21.4	17.0	14.6	15.6	25.2	28.5	25.6	24.3	29.0	23.4
5. Proportion of the total time spent unemployed accounted for by those with more than six months' unemployment over the year	46.5	43.9	40.3	42.5	54.5	58.3	55.9	54.0	60.6	54.0

Source: Statistics Canada, 1977-85, *Annual Work Patterns Survey*, and 1986-87, *Labour Market Activity Survey*. Based on Corak [1990a].

total unemployment. These figures suggest that unemployment has become highly concentrated, particularly in the post-recessionary period, whether one considers the long-term unemployed (as a proportion of the labour force or the total unemployed) or the time they spent in unemployment (as a proportion of the total time spent unemployed). For example, in 1987, about 4.2 per cent of the labour force who were in the long-term unemployed category accounted for 23.1 per cent of all the unemployed individuals and about 54 per cent of all the time spent unemployed. These results indicate a structural shift in the unemployment profile in Canada.

It could be argued that the increasing concentration of time spent unemployed among the long-term unemployed has been due to two factors: (i) the increase in the unemployment rate from 8.1 per cent in 1977 to 9.5 per cent in 1986; and (ii) the fact that the proportion of LTU is positively related to the unemployment rate. In this case, it could be that the rising concentration was merely a reflection of the rise in the unemployment rate. However, the period 1977-87 contained sub-periods when the unemployment rate rose (1979-83) and other periods when it fell (1983-87). The concentration of time spent in unemployment among the long-term unemployed rose sharply during 1979-83. However, while the concentration did decline during 1983-87, it did not decline nearly as fast. The unemployment rate rose by 61 per cent in the period 1979-83. The contribution of the long-term unemployed to total time spent unemployed rose by 45 per cent during that period. During the recovery and the expansionary period of 1983-87, the unemployment rate declined by 26 per cent while the contribution of the long-term unemployed to total time spent unemployed declined by only 7 per cent. The asymmetry of the responses of the unemployment rate and the contribution of the long-term unemployed to total time spent unemployed over the business cycle has important implications for the dynamics of the labour market; the sluggish response during the recovery and the expansionary periods suggests the presence of labour market rigidity.

The data on annualized unemployment experiences also allow us to identify individuals who have a higher probability of becoming long-term unemployed. For example, this analysis can be used to answer questions such as: Does an older worker have a higher probability (relative to other age groups) of becoming long-term unemployed holding constant his/her other characteristics?

The multivariate analysis used here to compute the probabilities is based on data from the Labour Market Activity Survey (LMAS) of 1986. An unweighed logit model is estimated using the maximum likelihood process. The independent variables are the different characteristics of the individual such as age, reason for separation, and region of residence. The number of individuals in the sample was 12,182, of whom 32 per cent were long-term

unemployed and the rest were short-term unemployed (with annual unemployment experiences of less than six months). Only those individuals aged 17-64 with at least one spell of unemployment during the year were considered in this sample.

Table 5 reports the conditional probabilities of entering into LTU calculated on the basis of the logit estimates. The actual logit estimates are reported in Appendix A. The specific results of interest here are:

1 The probability of becoming long-term unemployed increases with age. It is about three times higher for the older workers than it is for the young;

2 Individuals in the Atlantic provinces, British Columbia, and Quebec are more likely to be long-term unemployed than those in the Prairies and in Ontario.

In general, the results from the multivariate analysis confirm our earlier discussion. The groups which are the major candidates for experiencing LTU are the older workers, and individuals from British Columbia and Quebec. The result for the Atlantic provinces indicates the importance of the recurrent spells of unemployment. This is not surprising given the seasonal nature of employment in this region.

Is Canada's Experience of Long-Term Unemployment Different?

Canada is not the only country to experience a recent rise in LTU. The European OECD countries, Japan, and the United States have gone through this experience as well. The major difference between Canada's LTU experience and those of the other OECD countries, particularly those in Europe, is the magnitude of the problem. Canada and the United States exhibit far lower incidences of LTU than do the European countries, with the exception of Sweden (Chart 5). This pattern is true for the late 1970s and the 1980s, particularly the late 1980s. The European countries and Japan did not enjoy the (relatively) large declines in their incidences of LTU that North America did during the period after 1984. Indeed, in some countries – Belgium, the Netherlands, the United Kingdom, and Japan – the proportion of the long-term unemployed in total unemployment continued to increase throughout this period. In addition, countries with similar unemployment rates as Canada's in the latter part of the 1980s – Australia, the United Kingdom, and Germany – had far greater incidences of LTU. Most surprising was the situation in Japan where in 1988 the unemployment rate was less than one third that of Canada, but the incidence of LTU was about three times higher. This international evidence suggests that the reasons for the creation and persistence of LTU

Table 5

Conditional Probability of Long-Term Unemployment, 1986

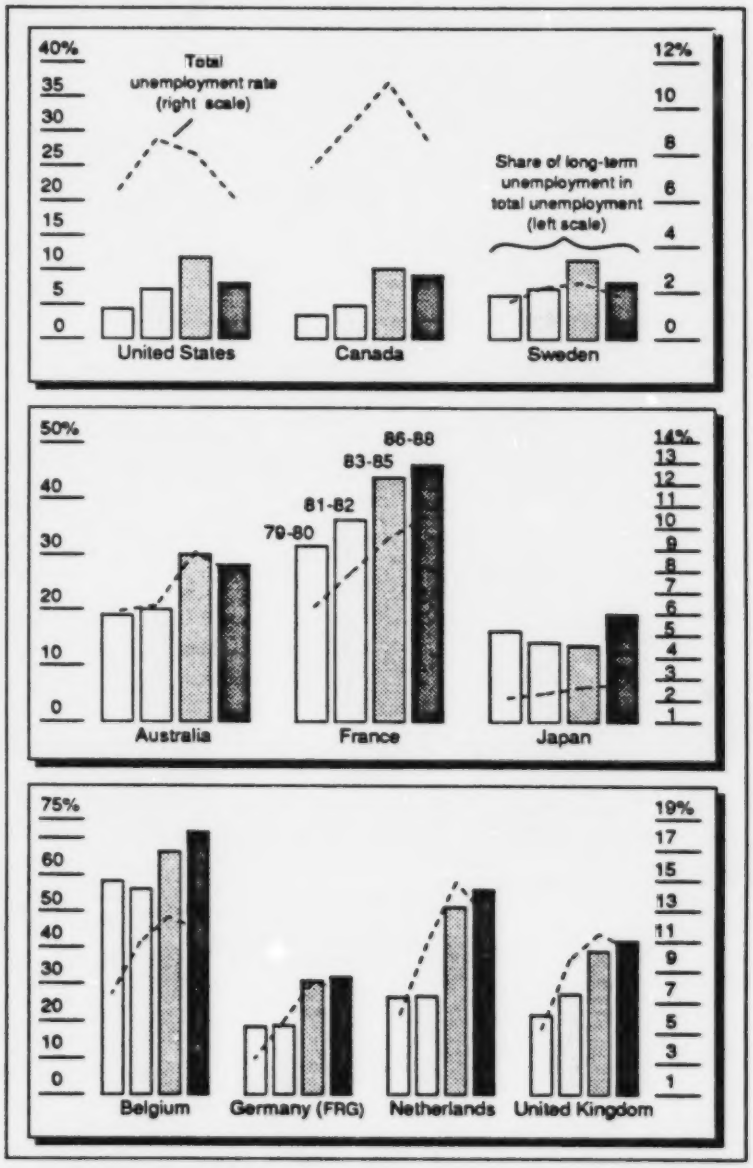
Variables		Probability
Canada		0.321
Sex	Male	0.333
	Female	0.306
Age	17-19 years	0.208
	20-24	0.291
	25-34	0.363
	35-44	0.365
	45-54	0.393
	55-64	0.472
Education	None or elementary	0.314
	High school (some or completed)	0.269
	Some postsecondary	0.256
	Postsecondary certificate or diploma	0.234
	University	0.188
Marital status	Married	0.351
	Single	0.387
	Others	0.434
Household status	Heads	0.343
	Non-heads	0.394
Student status	Student	0.210
	Non-student	0.364
Regions	Atlantic	0.365
	Quebec	0.325
	Prairies	0.257
	British Columbia	0.345
	Ontario	0.229
Reason for separation	Temporary layoff	0.160
	Other separation	0.325

SOURCE Based on the maximum likelihood estimates of a logit model (see Appendix A).

go beyond the increasing inflow into the unemployment pool caused by a cyclical downturn in economic activities.

Chart 5

Long-Term Unemployment and Total Unemployment, Various Countries, 1979-88



Is Long-Term Unemployment a Problem in Canada?

The increase in the incidence of LTU during the recessionary period of 1981-82 and its persistence during the recovery and the expansionary periods of 1983-89 suggest that there has been a shift in the 1980s in the nature of Canadian unemployment. This shift is more evident when account is taken of the increasing concentration of the time spent unemployed among the long-term unemployed. In this respect, the Canadian unemployment situation in the 1980s has become one where a few individuals are experiencing longer spells of unemployment.

There are distributional concerns as well. The regional disparities in unemployment experiences have been compounded by the different incidences of LTU. In addition, all regions have experienced higher incidence of LTU in the post-recessionary period. Older workers have been disproportionately affected by LTU. Compared with the other age groups, individuals in this group had a higher probability of becoming long-term unemployed once unemployed.

Finally, if the experience over the current business cycle is any indication, it is likely that the incidence of LTU will increase further from its current levels during the next economic downturn and will remain at the higher level well into the ensuing recovery process.

For all these reasons – the impact of LTU on the nature of Canadian unemployment, the disproportionate distribution of LTU, and the prospects of higher LTU in the next business cycle – it is important to better understand the causes and the consequences of the phenomenon of LTU in Canada.

What Caused Long-Term Unemployment in Canada?

The story of LTU is intimately related to the process that generates unemployment. Demand shocks such as the severe recession of the early 1980s cause an increased inflow into the unemployment pool. Similarly, supply shocks such as the oil price shocks of the 1970s also generate increased inflows. While most unemployed individuals find jobs quickly as economic conditions improve, a minority get locked into a long-term unemployment trap. That these individuals experience LTU may be due to various factors such as the evolving nature and composition of economic activity, to personal characteristics such as age, level of skill (relative to the skills demanded), length of unemployment experience, the hiring preferences of the employers, and the intensity of their job search.

Long-Term Unemployment and the Dynamics of Unemployment

Chart 2 (the "hook" diagram) suggests that past unemployment rates exert a powerful influence on the way LTU evolves in the labour market. An increase in the unemployment rate leads to an increase in the proportion of the long-term unemployed, albeit with a lag.

Our estimates (reported in Appendix B), based on quarterly data, indicate that the major portion of the changes in LTU (continuous unemployment of 12 months and over) in Canada over the recent business cycle can indeed be explained by movements in the aggregate unemployment rate. While the more recent changes in the unemployment rate are important, it is the unemployment experience of the previous year that exerts the most significant influence. These estimates also suggest that the LTU of older workers is much more sensitive to changes in their age-specific unemployment rate than the LTU of the other age groups.

In an accounting sense, the unemployment rate increases whenever the inflow into the unemployment pool exceeds the outflow from it. A decline in the outflow, caused by a reduction in new employment possibilities, will not only raise the level of unemployment, but will also cause persistence by lengthening the duration of unemployment. Unemployed workers who would otherwise have found jobs might now be obliged to remain unemployed. The variations in inflow will also have an impact on the persistence of unemployment. Suppose there is an influx into the unemployed pool. This will first raise the level of unemployment and tend initially to depress the average duration of unemployment. However, over time, if the increase in influx is not matched by an increase in the outflow, many of the displaced workers will be forced to remain unemployed for longer periods of time.

Inflows

Inflows into unemployment can be initiated by either the employer or the employee. Employer-initiated inflows will most likely occur in recessionary periods. Employee-initiated inflows are more likely to occur in expansionary periods, when the time spent in unemployment is expected to be relatively short. The evidence on the different types of inflow suggests that the majority of inflows into unemployment during the period 1979-89 were employer-initiated (Table 6). The contribution to the total unemployment rate of the employer-initiated (job-loser) category rose dramatically during the recessionary period. Since then, its contribution has declined, but the relatively greater importance of this category, as a proportion of total unemployment rate, has remained stable.

Table 6

Flows into Unemployment, 1975-87

	Unemployment rate	Contribution to the total unemployment rate by		
		Job losers	Job leavers	Individuals outside the labour force
1975	6.9	2.7	1.9	2.3
1976	7.1	3.3	1.7	2.1
1977	8.1	4.1	1.7	2.3
1978	8.3	4.2	1.7	2.4
1979	7.4	3.6	1.5	2.3
1980	7.5	3.7	1.5	2.3
1981	7.5	3.8	1.4	2.3
1982	11.0	6.5	1.7	2.9
1983	11.9	7.1	1.6	3.2
1984	11.3	6.5	1.8	3.0
1985	10.5	5.8	1.8	2.9
1986	9.6	5.3	1.7	2.6
1987	8.8	4.8	1.7	2.5

SOURCE Based on Statistics Canada, *Labour Force Annual Averages, 1981-88*, Cat. 71-529 (occasional).

The domination of employer-initiated inflows has important implications for the duration of unemployment facing those entering unemployment. Suppose we divide the labour force into three broad groups. Group one consists of youths who are new entrants into the labour market and are relatively unskilled as well as other individuals who work in sectors that involve a low accumulation of specific human capital. Group two consists of prime-aged workers who are in the process of acquiring specific skills and building human capital. Group three consists of older workers with high degrees of specific capital and "permanent" jobs.

If employers have to lay off workers, it is likely that those in group one would be the first to go. Workers in this group would also be relatively less attractive to other employers and their probability of finding employment would be low. Therefore, they would experience long durations of unemployment. Suppose, however, a lengthy recession has occurred and there has been a decline in certain industries (for example, the traditional manufacturing industries) that has led to plant closures. In this case, the last to go will be individuals in group three. These older workers may find their firm-specific capital unwanted in the wider labour market. The potential then also exists for these individuals to experience long durations of unemployment.

The entry of the third group into unemployment poses a serious problem for two reasons. First, older workers own firm-specific human capital and

may find it difficult to learn new skills applicable to other firms or industries. Second, potential employers may view these workers as poor employment prospects because of factors such as a higher likelihood of health problems and insufficient time to recoup the investment in retraining. Thus employers may set up a discriminatory screening device to eliminate this group from hiring consideration. The outcome of both situations is that the unemployed in this group may suffer long durations of unemployment.

Outflows

The outflow from unemployment will depend on the number of job vacancies and then offers of employment by employers. In a recession, the number of vacancies will be limited and employers will have an enlarged unemployment pool from which to fill them. In this situation, the unemployed with the least attractive characteristics, such as no skills, or firm-specific skills, will be pushed down the hiring queue and the probability of their entering into LTU will increase. This process has been likened to the situation in a flower shop by Budd, Levine, and Smith:

> The seller has on day 1, a stock of fresh flowers. Suppose, there is no price variation. Then the most popular varieties will sell first, leaving on day 2, a cohort consisting of a higher proportion of the less fashionable flowers, which in addition, are a day older. These in turn will compete with a new supply of fresh flowers, so that over time a cohort will develop which consists mainly of the less popular varieties which are also fading [1987, p. 297].

This phenomenon of state-dependence – the declining probability of leaving unemployment as the duration of unemployment grows longer – will depend on several factors. As demonstrated earlier, the characteristics of the unemployed individuals such as age and skill level are important (the heterogeneity factor). In addition, the experience of being pushed down the unemployment queue may decrease the intensity of the job search, as disillusionment sets in about the prospects of finding employment. Work skills may deteriorate from lack of use. These factors result in a fall in the prospects of employment. Declining prospects are also likely to be reinforced if duration of unemployment becomes a device used by employers to screen out undesirable job contenders. The outcome of these processes is that the longer the unemployment period, the lower the probability of leaving unemployment.

The Canadian Evidence on Inflow into and Outflow from Unemployment

The evidence on the inflow into and outflow from unemployment in this section is based on gross flows data.[5] This data base allows us to measure the

number of individuals who remain employed, unemployed, or out-of-the-labour-force, or who move between these states on a month-to-month basis.

Table 7 presents the average monthly inflow and outflow rates in Canada for the period 1976-89. The inflow into unemployment can be due to individuals moving from employment or from not-in-the-labour-force or both. The inflow rate is the number of these individuals as a proportion of the labour force. The outflow rate is defined as the proportion of unemployed individuals who move into states of employment and not-in-the-labour-force. As expected, the inflow and the outflow rates are significantly affected by the level of economic activity in the different periods. The inflow rate increased dramatically (by 22 per cent) between 1981 and 1982, reflecting the onset of the recession. The inflow rate has declined since 1984 to reach a level in 1989 that is lower than that of 1981. In contrast, the outflow rate was lower (by about 10 per cent) in 1989 than it was in 1981. Thus, while during the recessionary and the early recovery periods both the inflow and the outflow rates contributed to the rise in unemployment, the persistence in unemployment in the recent expansionary period has been due to the relative decline in the outflow rates.

The decline in the aggregate outflow rates can be attributed to the prime-aged and the older groups, in other words, those aged 25 and over (Chart 6). Overall, young people (aged 15-24) had higher rates of inflow and outflow

Table 7

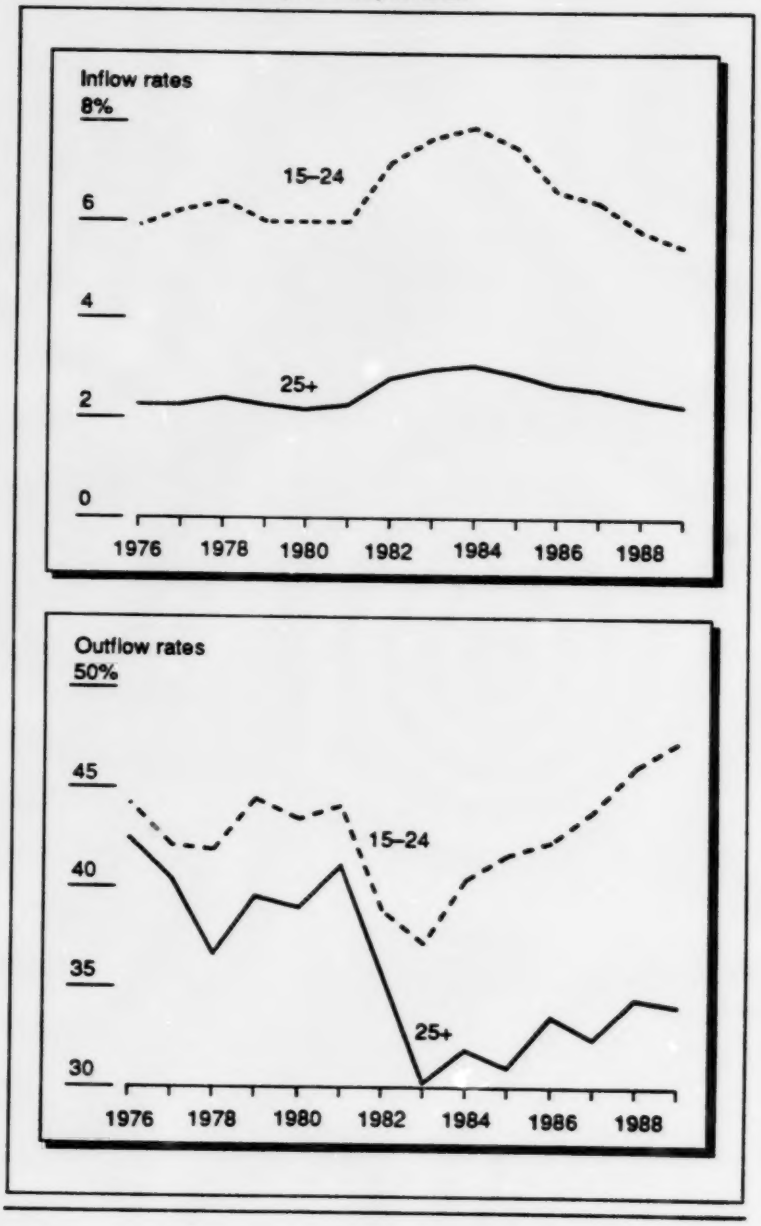
Annual Average of Monthly Inflow and Outflow Rates, Canada, 1976-89

	Inflow rates	Outflow rates
1976	3.3	43.4
1977	3.4	41.0
1978	3.5	39.1
1979	3.3	41.8
1980	3.2	41.1
1981	3.2	42.6
1982	3.9	37.0
1983	4.1	33.0
1984	4.2	35.0
1985	3.9	34.8
1986	3.6	36.5
1987	3.4	36.2
1988	3.1	38.3
1989	2.9	38.0

Source Based on Statistics Canada, gross flows data, and *The Labour Force*.

Chart 6

Inflow and Outflow Rates, Canada, 1976-89



than adults. However, for the youth, the inflow rates declined and the outflow rates increased in the post-recessionary period, indicating an improvement in their unemployment situation.

The same was not true for those aged 25 and over. The relatively high inflow and low outflow rates of the prime-aged and the older workers during the period 1983-89 helps explain the recent persistence of unemployment in Canada. The fact that the inflow rates remained stubbornly high while the outflow rates remained low suggests that members of this group continued to be subjected to long spells of unemployment during the expansionary phase.

Our gross flows data did not allow the desegregation of the 25-and-over age group. However, Corak [1990c] used the LFS to disaggregate inflow and outflow data for the prime-aged (25-44) and the older workers (45 and over). He reports that for both these groups, and particularly for the older workers, the inflow rates were high and outflow rates were low during the period 1983-88.

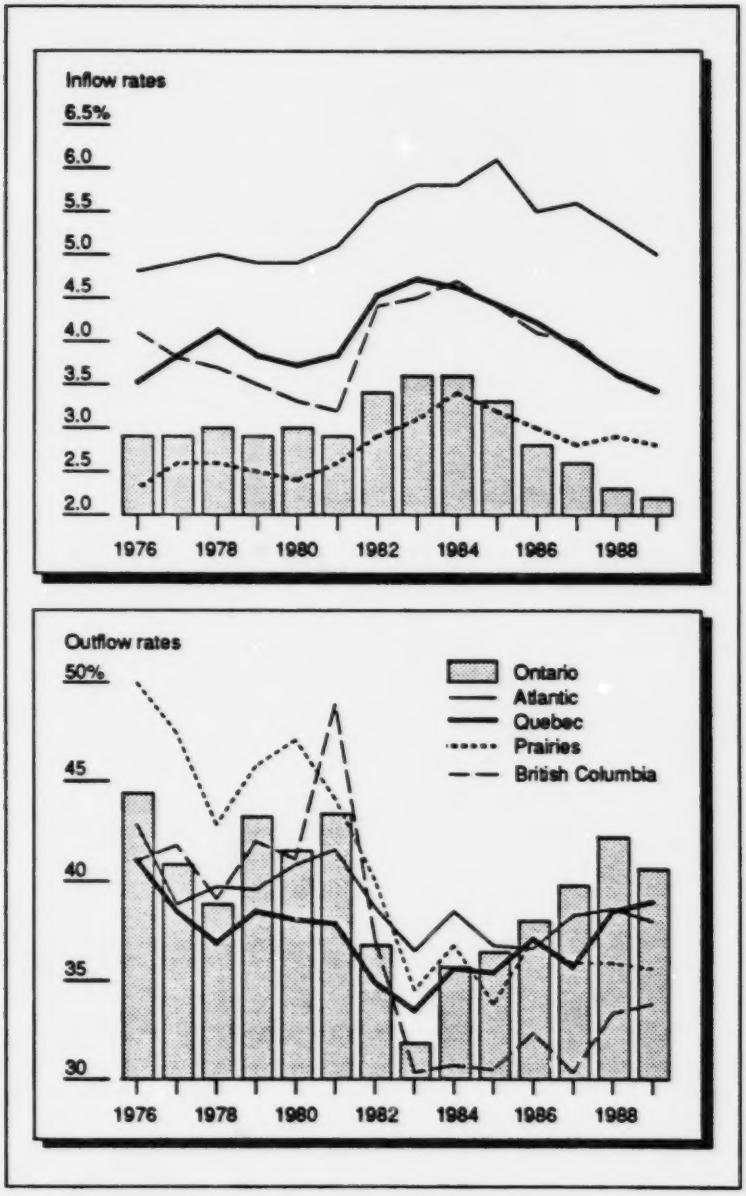
The Inflow and Outflow Rates by Region

Chart 7 presents the inflow and outflow rates for the regions. Although the magnitudes differed, all regions were marked by an increase in the inflow into and a decline in the outflow from unemployment during the recessionary period 1981-82. The impact of the recession was most severe in British Columbia, where the inflow rate went up by about 38 per cent and the outflow rate declined by 24 per cent during 1981-82, followed by Ontario, where the changes in these two rates were about half those in British Columbia.

The inflows into and outflows from unemployment during the recovery and the expansionary period contrast sharply. These contrasting flows in turn determine the different regional experiences of persistence in unemployment in the 1980s. In 1989, among all the regions, Quebec was the only one where the inflow rate was lower and the outflow rate higher than its 1981 level; however, it took until 1988 for the outflow rate to reach its pre-recessionary level. In Ontario, the other province whose overall unemployment performance has been impressive, the decline in unemployment between 1981 and 1989 was the result of a reduced inflow into the unemployment pool rather than an increased outflow from it. On the other hand, the experience in the western provinces has not been as positive. In 1989, in British Columbia and the Prairies, the inflow rates have remained above and the outflow rates significantly below their 1981 levels. As a result, the unemployment rates in these provinces have remained persistently high in the 1980s. For the Atlantic region, the changes in the inflow and the outflow rates were relatively small during 1981-82. However, while the inflow rate remained relatively stable between 1981 and 1989, the outflow rate in 1989 was below its 1981 level.

Chart 7

Inflow and Outflow Rates, by Region, Canada, 1976-89



The inflow and outflow patterns across the regions indicate the strong impact of aggregate demand disturbances on unemployment. It appears that the fluctuations in these rates in Ontario and Quebec are more responsive to the cyclical variations than they are in other provinces; this is borne out by the fact that the inflow and outflow rates have more or less returned to their pre-recessionary levels, albeit with fairly substantial lags. However, for western Canada, the persistence of high unemployment is also due in part to fluctuations in world commodity prices during the late 1970s and the early 1980s. Agricultural prices and energy prices were very strong in the 1970s, but very weak in the 1980s. The prolonged dip in these prices in the latter periods had a strong impact on the resource-exporting provinces in western Canada and led to structural changes in the pattern of labour demand, which in turn led to an increase in the inflow rates into and a decline in the outflow rates from unemployment.

The evidence on the inflow and outflow rates for the regions confirms the national pattern: it is the slow adjustment of the outflow rates over the expansionary period that is responsible for the persistence in unemployment.

Exit Probabilities of the Long-Term Unemployed

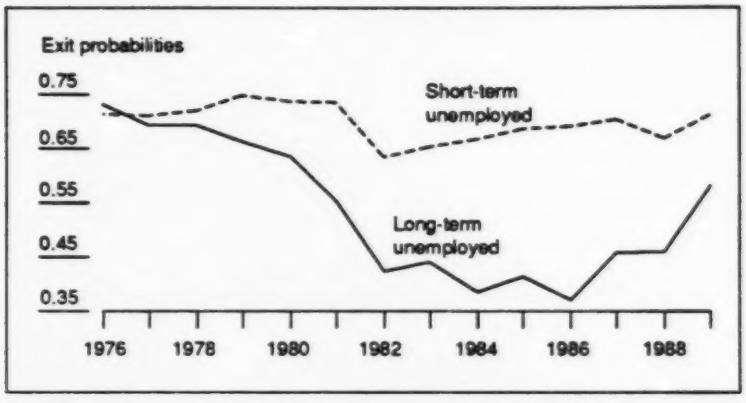
The difficulty of leaving the state of unemployment becomes more pronounced as the duration of unemployment increases. Chart 8 presents the probabilities of exit from unemployment for two groups. The first group consists of individuals who have been unemployed for less than three months (the short-term unemployed), and the second group consists of individuals with prior unemployment experiences of six to 12 months (the long-term unemployed).[6]

Chart 8 illustrates that the exit probabilities of the short- and the long-term unemployed have diverged considerably since 1977 when they were almost the same. For both groups, the exit probabilities declined sharply during the recession. However, while the prospect of exiting from unemployment for the short-term unemployed has now nearly returned to its pre-recession level, this is not the case for the long-term unemployed. This is the so-called-state-dependence effect discussed above (see p. 19).

Given that the exit probabilities decline with the length of time spent in unemployment, one issue is whether this results from differences in personal characteristics (the heterogeneity effect) of the unemployed. These characteristics could include, among other things, age and place of residence. These characteristics may help identify individuals most at risk of becoming long-term unemployed, at an early stage in their unemployment spell.

Chart 8

Exit Probabilities for the Short- and the Long-Term Unemployed, Canada, 1976-89

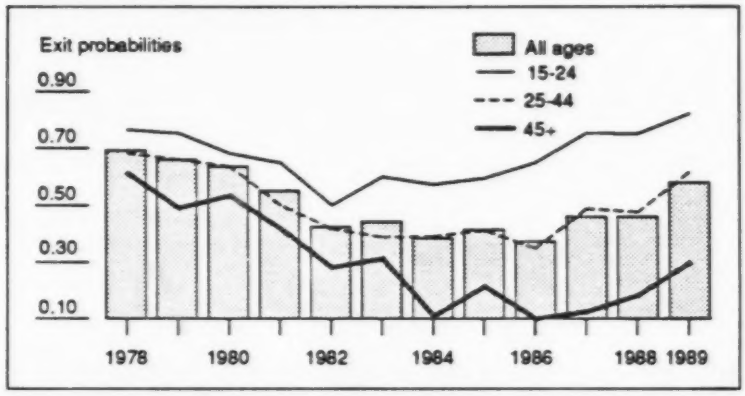


The difficulties of long-term unemployed older workers are highlighted when one compares the estimated exit probabilities of the different age groups (Chart 9). Not only is the exit probability of this group the lowest of any age group, it has also declined significantly in the 1980s from 52 per cent in 1981 to 24 per cent in 1989. In contrast, in 1981 the exit probabilities for the 15-24 and the 25-44 age groups were 65 and 59 per cent, respectively, and in 1989 they were 78 and 52 per cent. The result has been a widening of the gaps among the different age groups' escape probabilities. The long-term unemployed older workers remained most at risk of continuing their already lengthy unemployment spells. For the other age groups, even though long-term unemployment was a difficult predicament, their position was not hopeless.

Over the recent business cycle, the exit probability for the long-term unemployed was the highest in Ontario and Newfoundland, followed by the rest of the Atlantic provinces and the Prairie provinces (Chart 10). The exit probability in Quebec has remained consistently below that of the rest of the country. It declined in all regions (except Newfoundland) during the recession but rebounded during the recovery and expansion, particularly in Ontario and British Columbia. This improvement was particularly striking in British Columbia, where the escape probability increased from 20 per cent in 1983 to 52 per cent in 1989. This was not the case in Quebec, where it declined from 48 per cent in 1981 to 35 per cent in 1989. The increasing possibility of escape from LTU in Ontario reflects the tight labour market in this province. In British Columbia, it reflects a combination of the expansion in

Chart 9

Exit Probabilities for the Long-Term Unemployed, by Age, Canada, 1981-89



overall economic activity and improved conditions in global commodity markets. The relatively higher exit probabilities in the Atlantic provinces are responsible for the relatively lower incidences of LTU there, despite the high unemployment rates. The decline in the exit probability in Quebec reflects the fact that this province contains the highest number of long-term unemployed of any region; the likelihood of escaping from a larger pool is therefore less.

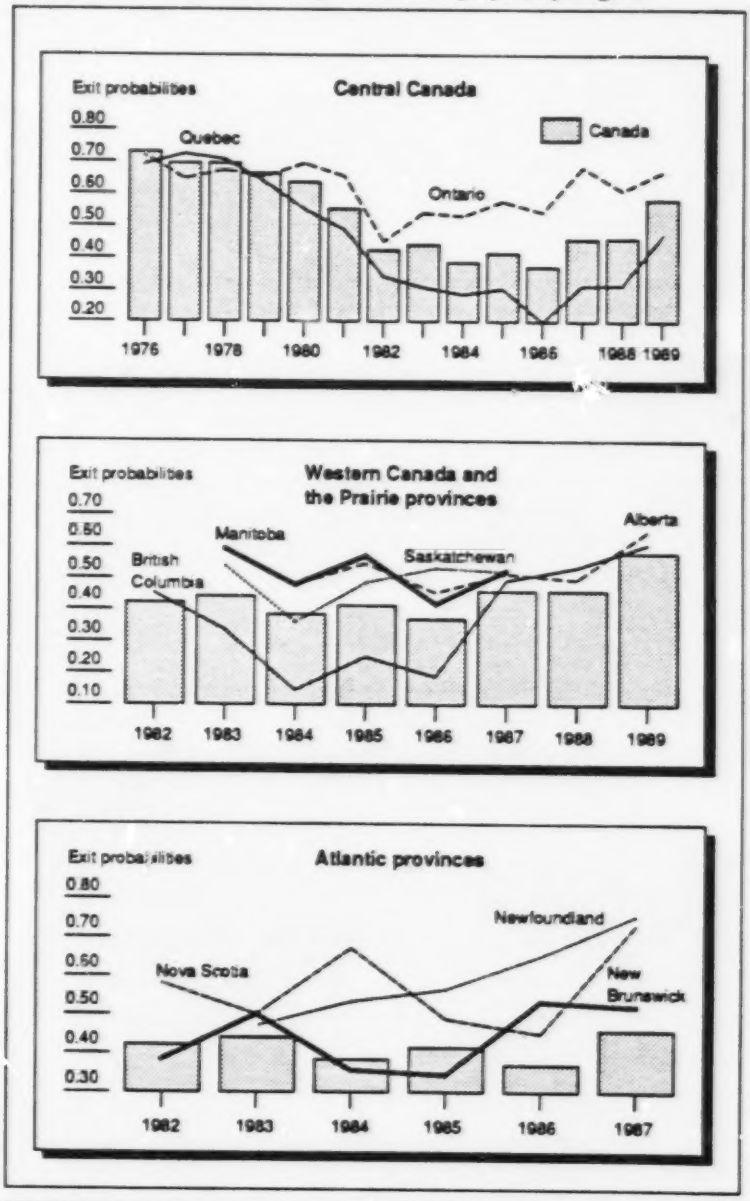
One note of caution is required about interpreting the data on the exit probabilities. The calculation of these probabilities covers not only those who left unemployment to find employment, but also those who left the labour force. As such, the probabilities for certain groups may overestimate the chances of leaving the state of unemployment to enter into employment. Nevertheless, the degree of variation in these exit probabilities does serve to illustrate the different degrees of risk (of remaining unemployed) to which each of the above groups are exposed.

Causes of the Decline in Exit Rates

The chances of escape from LTU are affected by several factors. The personal characteristics of the unemployed and the duration of the spell of unemployment have significant effects. Economic factors such as the severity of the recession will affect LTU by altering the size of the inflow into unemployment. The speed and the magnitude of the recovery process will affect the extent of the outflow. Structural changes will alter the nature of

Chart 10

Exit Probabilities for the Long-Term Unemployed, by Region



jobs, and the resulting matches or mismatches between labour demand and labour supply will determine which individuals are most likely to escape unemployment. The behaviour of the unemployed individuals, for example, the intensity of the job search, is also instrumental.

In looking at the causes of declining exit probabilities, it is instructive to analyse what the long-term unemployed perceive to be the reasons why they cannot find jobs. The results of such an analysis could point to some of the reasons for declining exit probabilities. The 1986 Labour Market Activity Survey asked the unemployed what problems they had when looking for jobs. Five choices were provided: 1) not enough information about available jobs; 2) not the right skills for the available jobs; 3) not enough education for the available jobs; 4) not enough experience for the available jobs; and 5) a shortage of jobs in the area. The answers of the short-term unemployed, defined as those with annual unemployment experiences of six months or less, and the long-term unemployed – those with annual unemployment experiences of more than six months – are reported in Table 8. For the long-term unemployed, the most frequently cited cause was the shortage of jobs in the area, followed by lack of experience, and not possessing the right skills. The remainder of this sub-section analyses the causes of declining probabilities in the context of these perceptions by the long-term unemployed.

Lack of Jobs

That lack of jobs was cited as a major reason for not finding work is somewhat surprising, given the buoyancy of the economy in 1986. One explanation may be the severity of the preceding recession. Overall, the number of unemployed rose during 1981-83 by about half a million. In terms of age group, the most severe increase was among the older workers. The number of unemployed older workers was about 52,000 in 1981; this number reached about 97,000 in 1983, an increase of about 87 per cent. The corresponding increase for the young was about 40 per cent and for the prime-aged group about 52 per cent. Not only did unemployment increase during this recession, but employment also declined for the first time since the 1957-58 recession. The reduced job opportunities – employment did not regain its 1981 level until 1985 – may have led to increased competition for jobs among the large number of unemployed. Those that did not succeed in this competition faced the prospect of a long duration of unemployment which in turn fed on itself (the state-dependence effect) to create a situation of persistent long-term unemployment.

However, it would not be proper to judge the cyclical sensitivity of unemployment and LTU by simply looking at the absolute number of unemployed or job seekers. As illustrated above, unemployment can fluctuate either be-

Table 8

Causes of Problems when Looking for Work, Canada, 1986

	Short-term unemployed[1]	Long-term unemployed[1]
	(Per cent)	
Not enough information	0.81	5.77
Not the right skills	1.37	10.35
Not enough education	1.05	8.06
Not enough experience	1.49	10.69
Shortage of jobs in the area	2.94	19.56

1 Reporting each cause.
SOURCE Based on Statistics Canada, *Labour Market Activity Survey*, 1986.

cause there has been a reduction in the number of jobs, or because there are more people looking for work. The latter may occur due to a larger pool of the existing unemployed or to an increase in the participation rate. The question of the participation rate is particularly important in the study of the persistence of unemployment.

Following Clark and Summers [1981], the link between participation rate and unemployment can be embodied in the following identity:

$$(E/P) = (E/L) \,.\, (L/P), \qquad (1)$$

where E is employment, P is the source population, and L is the labour force. This identity is applicable in the aggregate as well among the different demographic groups. The identity suggests that the employment-to-population ratio is the product of two factors – the employment-to-labour-force ratio (i.e., the employment rate) and the labour-force-to-population ratio (i.e., the participation rate). Since the labour force is composed of the employed and the unemployed, the employment rate also provides information on the unemployment rate: the employment rate is one minus the unemployment rate. A manipulation of equation (1) yields:

$$\text{unemployment rate} = 1 - (E/P)\ (1/\text{participation rate}). \qquad (2)$$

Equation (2) suggests that a rise in the employment-to-population ratio translates into a reduction in the unemployment rate if the participation rate remains constant. On the other hand, a rise in the participation rate holding the employment-to-population ratio constant will cause a rise in the unemployment rate. The net effect on unemployment will then depend on the relative strengths of the movements in these two variables.

Table 9 presents the percentage change in the absolute values of three ratios – employment-to-population, employment-to-labour-force, and the participation rate – for all as well as for the various age groups. For Canada, the employment-to-population ratio declined by about 5 per cent between 1981 and 1982. This decline was due to a drop in the employment rate of about 4 per cent and a drop in the participation rate of 1 per cent. The drop in the employment rate indicates a significant inflow into unemployment of those previously employed. The decline in the participation rate was due to outflows of individuals from the states of employment and unemployment to non-participation. The increase in the unemployment rate of 3.5 percentage points during this period would have been higher had the participation rate not declined. The ensuing recovery period saw increases in both the employment rate and the participation rate. However, the decline in the unemployment rate would have been greater during this period had the participation rate not increased. The distribution of the employment gains among the existing unemployed and the new labour force participants had wide implications for the persistence of unemployment. The entry of the new participants at this time reduced the fall in unemployment. The new participants competed for jobs that otherwise would have gone to the existing unemployed. Those among the already unemployed who did not get a job lapsed into LTU.

The evidence on the age-specific employment and participation rates reveals different experiences for the different age groups. For the young, the growth of the employment rate over the recovery period surpassed that of the participation rate. As a result, the unemployment rate for this group declined over the period 1983-88. However, this was not the case for the 25-54 year olds. The growth of their participation rate exceeded that of their employment rate. The increase in their participation rate offset some of the impact of the employment gains for the existing unemployed in this age group, thus contributing to the persistence of unemployment.

While the employment-to-population ratio of the 17-24 and 25-54 year olds increased during the period 1984-88, that of those 55 and over steadily declined. From equation (1), the factor contributing most to this trend was the decline in the participation rate, something which needs to be examined closely. It is possible that many of the older workers were discouraged and withdrew from the labour force or took early retirement.

There are two possible reasons for this discouragement. First, for the individual, prolonged periods of unemployment that lead to a decline in the chances of obtaining employment can generate feelings of depression, stress, and apathy. Feelings of discouragement and alienation may lead to poor work attitudes, and these in turn may directly reduce employability. In addition, those who experience prolonged or repeated spells of unemployment may be disadvantaged by their failure to gain work experience or on-the-job training.

Table 9

Employment-to-Population Ratio and its Decomposition, Canada, 1977-88

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
	(Percentage change)											
Employment-to-population ratio												
All ages	–0.27	1.52	2.19	1.02	0.98	–4.71	–0.55	1.38	1.60	1.67	1.57	1.94
15-24	0.25	1.86	1.59	1.32	1.55	–3.34	–0.05	1.13	1.79	1.93	1.56	1.87
25-54	0.25	1.86	1.59	1.32	1.55	–3.34	–0.05	1.13	1.79	1.93	1.56	1.87
54 and over	–1.33	–0.20	0.80	–1.12	–1.39	–3.76	–2.97	–1.61	–1.52	–2.76	–1.14	0.50
Employment-to-labour-force ratio												
All ages	–1.05	–0.26	1.00	–0.04	–0.10	–3.71	–0.97	0.68	0.88	1.04	0.76	1.18
15-24	–1.96	–0.07	1.79	–0.26	–0.12	–6.39	–1.13	2.40	1.74	1.57	1.69	1.87
25-54	–0.73	–0.38	0.76	–0.02	–0.19	–3.14	–1.02	0.12	0.70	0.88	0.52	0.96
54 and over	–0.81	–0.20	0.72	0.16	0.09	–2.35	–1.12	0.19	–0.25	0.72	0.19	0.93
Participation rate												
All ages	0.79	1.78	1.17	1.07	1.08	–1.04	0.42	0.70	0.72	0.63	0.80	0.76
15-24	1.33	1.74	2.77	1.64	0.85	–2.76	0.20	1.20	0,85	1.46	1.11	0.70
25-54	0.99	2.24	0.83	1.34	1.74	–0.21	0.98	1.01	1.08	1.05	1.04	0.91
54 and over	–0.52	0.18	0.08	–1.28	–1.48	–1.44	–1.87	–1.80	–1.27	–3.46	–1.32	–0.42

This syndrome is often called scarring. Second, scarring would tend to be reinforced if employers use a prolonged period of unemployment as a screening device in the selection process. Employers may also regard those experiencing LTU as unemployable after they have been rejected by other employers. These factors could lead to a vicious circle whereby those who lack meaningful work skills cannot find a stable job which will give them such skills. As illustrated in the section on inflows (p. 17-19), the older workers with their firm-specific skills are particularly susceptible to this type of discouragement, the net result of which may be withdrawal from the labour force.

The Changing Nature of Jobs and Mismatches in the Labour Market

It could be argued that it is not the number of jobs but the changing nature of jobs that has been responsible for the decline in the exit rates in recent decades. It has been suggested that the recession of 1981-82 was also accompanied by a rationalization of the industrial structure in Canada. This restructuring was a response to the shifts in national and international markets. For example, the rise and subsequent fall in energy prices led to a rationalization of the energy industry as well as energy-intensive industries. Depressed raw materials prices led these industries to reconsider their strategic position in an increasingly global market. Intensification of international competition affected the production structures of the traditional smoke-stack industries. This restructuring process had a significant impact on the composition of employment. Unemployed who lacked skill and experience relative to the shifting pattern of labour demand had increasing difficulties finding jobs.

Three aspects of the emerging job structure are noteworthy: the evolution of the service sector as the predominant employer, the growth of non-standard employment, and changing skill requirements.[7] While the service sector has been growing as an employment generator since the turn of the century, the pace of the increase in its share of employment has accelerated in the last two decades. The employment share of the service sector was about 71 per cent in 1988.

There has been an increase in non-standard employment (such as part-time work, short-term work defined as jobs of less than six months duration, self-employment, and temporary-help agency work) in Canada in recent years. For example, the share of part-time work, generally concentrated in traditional services, increased from 4 per cent of total employment in 1953 to 15 per cent by the mid-1980s. The prevalence of part-time work is particularly noticeable in Quebec and Saskatchewan, where about 40 per cent of new jobs since 1975 have been part-time. While the growth of non-standard employment may have improved hiring flexibility on the part of the employers, for employees it has meant unstable employment, low pay, and minimal opportunities for training and promotion [*Good Jobs, Bad Jobs*, 1990].

While many of the skill requirements in the goods sector are at the intermediate levels, the skill requirements in the service sector are more diverse. There has been an explosion in the growth of both managerial occupations and a variety of low-skilled jobs in the service sector. Nearly two thirds of the jobs in the service sector are information-based, and the goods sector is also moving towards this type of employment.

The changing composition of employment has significant implications for the functioning of labour markets. The shift of employment to the service sector and changing skill requirements have led to increased mismatches between labour demand and labour supply. In addition, decreased mobility of labour between industries has further increased the amount of mismatches [Gera and Rahman, 1990]. The severity of these mismatches has led to prolonged durations of unemployment for certain individuals.[8] For example, older workers, with their firm-specific skills, are particularly susceptible to this type of unemployment.

The growth in the number of relatively low-paying and uncertain non-standard jobs poses a difficult choice for the unemployed individual who was previously employed in a full-time position. For example, accepting a part-time job could translate into a lower standard of living. This factor, combined with the uncertainty attached to this form of employment, may induce the unemployed individual to search for a "standard" job and therefore remain unemployed for longer. The problem here is the mismatch between what is being offered (the labour demand) and what the worker wants (the labour supply). Summers [1986], in pursuing a similar point, suggests that in the United States, the reduction in high-wage employment is not offset by the growth in low-wage employment, and that the transitional unemployment suffered by persons losing high-wage jobs is significant.

The presence of LTU also adds to the mismatch in the labour markets. Previous research by Gera, Rahman, et al. [1988], using the so called u/v (unemployment-vacancy) curve approach, confirms that the presence of LTU increased the extent of labour market mismatches in Canada and its regions over the period 1976-85. The research found that the increase in the proportion of LTU was a major reason for the upward shifts in the national and some of the regional u/v curves.

Reduced Search Intensity among the Long-Term Unemployed

Another reason for long spells of unemployment may be the reduced intensity of job search of the unemployed individuals. A decline in the intensity of the job search may lead to a reduced flow of information about potential employment situations, and may have led to the identification of "lack of

information" as one reason for not finding a job. Clemenson [1987] finds that in 1986 a smaller proportion of the long-term unemployed (continuously unemployed for a year or more) used more than four methods of searching for a job than did the short-term unemployed. This evidence suggests a relatively lower search intensity among the long-term unemployed. The job search methods of the latter tend to be more informal, for example, checking with friends and relatives, looking at job advertisements, and placing or replying to advertisements. The relatively higher utilization of these informal methods by this group could indicate job search disillusionment. It could also be a result of "scarring," and a step in the process by which the long-term unemployed become a marginal element of the labour force.

Other Factors

Other factors may also cause persistence in unemployment and hence affect the probabilities of exiting from unemployment. The generosity of the unemployment insurance system increases the duration of unemployment [Milbourne, Purvis, and Scoones, 1989] and can cause attitudinal changes which lead to repeated spells of unemployment [House,1989]. Also, employers' reactions to factors such as higher fixed non-wage costs, and uncertainty about future product demand can affect the exit probabilities of the unemployed [Flanagan, 1988; Corak, 1990c].

The Causes of Long-Term Unemployment: A Summary

Several factors are responsible for LTU in Canada over the past few years. While the recent expansionary period witnessed the creation of significant employment, the perception that there was a *lack of jobs* is relevant for the existing long-term unemployed; the rise in the participation rate for individuals aged 25-54 may have restricted job opportunities for these individuals. The decline in the participation rate of individuals aged 55 and over may have been due to discouragement stemming from long spells of unemployment. The changing nature of jobs resulted in mismatches that limited the employability of some individuals and decreased their exit probabilities. The increase in these mismatches is a further indication that some of the long-term unemployed perceive *lack of experience* and *lack of skills* as important reasons for their not finding jobs. Finally, the feeling that there is a *lack of information* may be due to the reduced intensity of these individuals' job search.

The Macroeconomic Implications of Long-Term Unemployment

There are two important macroeconomic implications of LTU. First, the long-term unemployed may have little impact on competitive pressures in the labour

market, and hence on wage determination. As a result, a rise in the unemployment rate may exert a lower disinflationary impact if significant LTU is present. Second, LTU may generate a process of unemployment hysteresis. The concept of hysteresis suggests that the natural rate of unemployment at any point in time is a positive function of past unemployment rates. This section examines each of these macroeconomic implications in turn.

Wage Inflation and Long-Term Unemployment

The problem of inflation can arise as follows. The wage setters in the labour market generally set wages as a mark-up on expected prices. The price setters in turn set prices as a mark-up on expected wages. If these mark-ups are too high, the result is a rise in inflation.

The link between movements in unemployment and inflation is summarized in the so-called Phillips-curve relationship. The relevant concept of unemployment here is the non-accelerating inflation rate of unemployment (NAIRU). If the actual rate falls below NAIRU, the result is accelerating wage inflation. When the unemployment rate is above NAIRU, competition from the unemployed for employment opportunities acts to moderate the increase in wages. The conventional Phillips curve is often simply written as (ignoring other relevant variables):

$$W_t = a - b\,(U_t - U_{nt}), \tag{3}$$

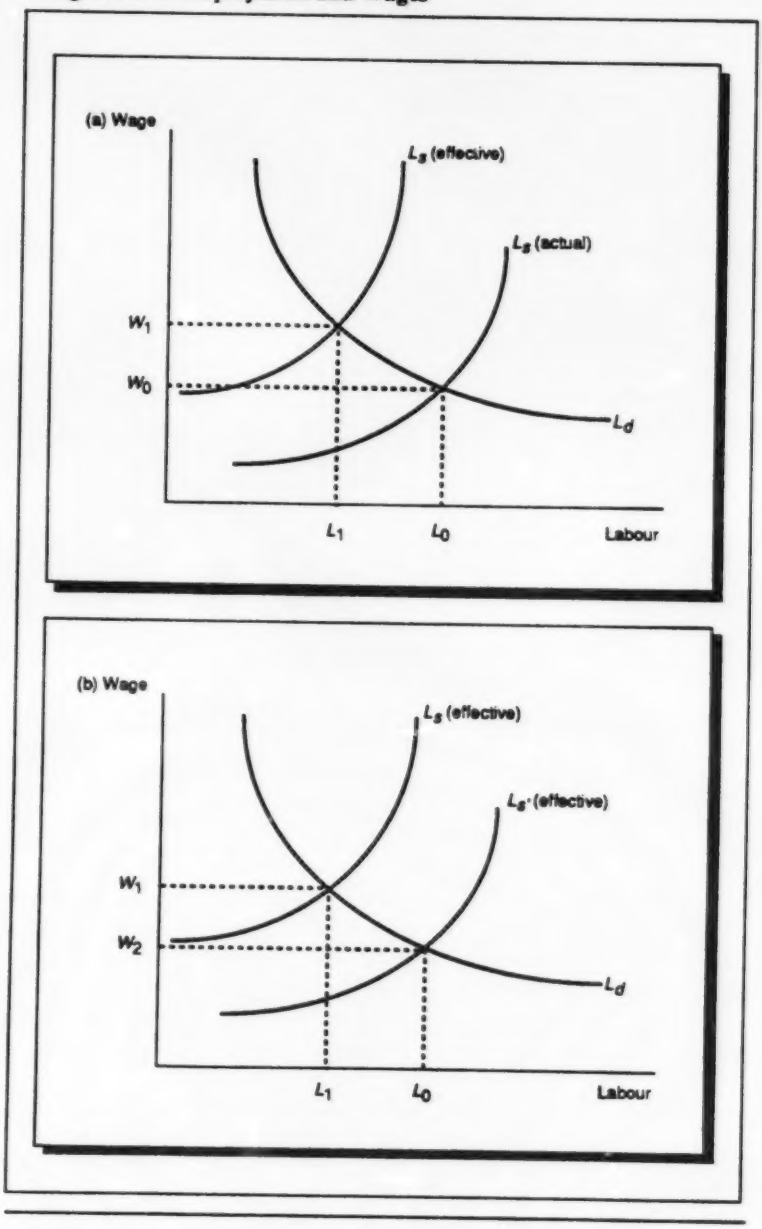
where W_t is the rate of wage inflation in period t, U_t is the unemployment rate, and U_{nt} is NAIRU.

This trade-off between inflation and unemployment can depend on the changes in the composition of the unemployed pool. For example, recent experience in Canada has shown that as the unemployment rate increased in the 1980s and stabilized around the higher level, the proportion of the LTU increased as well. These long-term unemployed may have less of an impact on the competitive pressures in the labour market. It has been argued that they could become isolated from the mainstream labour market, forming a marginalized labour force. In terms of their impact, this group becomes closer to the non-participants than to the unemployed. This isolation can reduce competition for jobs in the labour market and hamper its efficient functioning, especially if the proportion of long-term unemployed is large.

These arguments can be illustrated with the help of simple labour demand and supply diagrams. Chart 11(a) illustrates the labour demand (L_d) in an economy based on marginal productivity of labour. The curve L_s (actual) is the actual labour supply curve in the economy, comprised of all the labour offered at different wages. If the market functions efficiently and competitive

Chart 11

Long-Term Unemployment and Wages



conditions prevail, the equilibrium outcome in this labour market is the employment L_0 and the wage W_0. Suppose now that the unemployed in this economy consist of the short- and the long-term unemployed and that the long-term unemployed have become marginalized to the extent they are considered as being outside the labour force. The effective labour supply in this economy is then reduced to L_2 (effective). This outcome assumes that the long-term unemployed have ceased to have any influence on the wage bargaining process. In such a case, the equilibrium employment is reduced to L_1 and the wage increases to W_1. This scenario leads to the argument that the high unemployment rates may have a lower-than-expected disinflationary impact in the presence of significant LTU.

Consider now a policy that leads to a reduction in the proportion of the long-term unemployed, for example, a marginal wage subsidy to employers. In this scenario the outcome is an increase in the effective supply of labour at every wage level. The labour market can now be depicted as in Chart 11(b). The effective labour supply curve is now L_2' (effective). The employment-wage outcome is now L_2 and W_2. The moral of this story is that employment will increase and wages decline as more of the long-term unemployed are integrated into the mainstream labour force. The decline in wages and unemployment rates will in fact improve the unemployment-inflation situation in the economy.[9]

Empirical investigation of the impact of LTU on wage inflation requires segmenting the effects of short- and long-term unemployment. To do so, the standard Phillips-curve relationship is modified as follows:

$$W_t = a_1 - b_1 (U_{st} - c_1 U_{lt}),$$

$$\text{where } b_1 > c_1 > 0. \tag{4}$$

W_t is the rate of wage inflation in period t and U_{st} and U_{lt} are the short- and long-term unemployment rates, respectively. Taking into account the impact of expected inflation (Pe_t) and other relevant market variables (X_t), the empirical specification becomes:

$$W_t = a_2 - b_2 U_{st} - c_2 U_{lt} + d\,Pe_t + g\,X_t,$$

$$\text{where } b_2 > c_2 > 0,\ d > 0. \tag{5}$$

The OECD [1987] examined the impact of LTU on wage inflation by estimating equation (5) for six countries – Austria, France, Germany, the Netherlands, the United Kingdom and the United States. The results were inconclusive. The impact of the short-term unemployment rate was found to be significant for Austria and the United States, whereas that of the long-term

unemployment rate was significant for France only. Neither of the unemployment rates were significant in the other countries.

We estimated equation (5) for Canada over the period 1977-87 with the quarterly data. The definitions of the variables used in the regressions were as follows:

W_t = rate of growth of the composite industrial hourly wages;

U_{st}, U_{lt} = short- and long-term unemployment rates;

Pe_t = moving average of past inflation rates over seven quarters; and

X_t = productivity growth in the manufacturing sector or difference in the growth rates of CPI and the GDP deflator or the growth in minimum wages relative to lagged average wages.

The results of the estimation of the various versions of the equation are reported in Table 10. The estimation processes were corrected for autocorrelation whenever necessary. The results show that in all specifications the coefficient on the long-term unemployment rate was insignificant. An increase in the short-term unemployment rate was found to have a significant negative impact on wages. The increase in expected inflation rates had a positive impact on the wage changes. Somewhat surprising was the finding that the growth in productivity had no influence on determining the change in hourly wages. The behavior of minimum wages relative to average wages was significant in determining aggregate wage changes; an increase in this ratio led to higher hourly wages.

To the extent that the long-term unemployed exert no pressure on wages, the conclusions of Chart 11(b) – that a policy induced reduction in LTU will improve the unemployment-inflation trade-off – become relevant. In terms of the Phillips-curve analysis, measures to reduce the long-term unemployed will then reduce the natural rate and increase the efficiency of the labour market.

Hysteresis and Long-Term Unemployment

In contrast to the conventional notion that the natural rate of unemployment remains constant over time, the concept of hysteresis suggests that it will change in response to movements in past unemployment rates. The rationale for this link between the natural rate and past rates is that persistently high unemployment will lead to changes in structural features of the economy. If structural features change, the natural rate will rise. These structural changes

Table 10

Estimation of Wage Equations, Canada, 1977 (3rd Quarter)-1987 (3rd Quarter)

Dependent variable: changes in hourly wages (W_t)

	Estimated coefficients		
	(1)	(2)	(3)
Independent variables			
Constant	0.643	0.515	0.298
	(1.042)	(0.817)	(0.441)
Short-term unemployment rate (U_{st})	–0.138	–0.116	–0.097
	(2.229)	(1.931)	(1.521)
Long-term unemployment rate (U_{lt})	0.031	0.030	0.031
	(1.091)	(0.996)	(1.045)
Expected inflation (Pe_t)	1.174	1.143	1.210
	(10.285)	(9.950)	(9.576)
Change in productivity	0.067		
	(1.054)		
Differences in GDP deflator and CPI		0.110	
		(0.722)	
Ratios of minimum wage to average wages			0.072
			(1.959)
R^2	0.860	0.858	0.870
SEE	0.382	0.391	0.374
DW	1.967	1.856	1.774

NOTE Figures in parentheses are absolute *t*-ratios.

can occur in stocks of human and physical capital, and in the wage-bargaining process.

LTU can lead to unemployment hysteresis through a process of deterioration of skills as well as deprivation of job experience. These factors contribute to the persistence of unemployment. Also, prolonged unemployment is typically associated with a recession. In a recession the level of investment is at a low level. As a result, capital stock reduces, thus increasing unemployment (given no change in technology) and in turn the natural rate.

The passive role of the long-term unemployed in the wage bargaining process can also generate hysteresis. For example, an "insider-outsider" bargaining process may develop [Blanchard and Summers, 1986; Lindbeck and Snower, 1989]. In this process, wages are primarily influenced by the employed workers (insiders) who are represented by a union; the unemployed

(outsiders) have little influence on the process. The outcome of this fundamental asymmetry in the wage-setting process is that outsiders are disenfranchised and wages are set to ensure the jobs of insiders. Hysteresis results when a shock leads to reduced employment, changing the number of insiders and consequently the equilibrium wage rate. The long-term unemployed belong to the outsider group. If, as argued above, this group is less competitive in the labour market, the increasing incidence of LTU may reduce potential competition in the labour market.

While there is considerable evidence on the processes leading to the hysteresis phenomenon in Europe, such evidence is not available for Canada. There is some evidence that hysteresis (interpreted as the influence of the past unemployment rate) did contribute to the rise in unemployment in Canada [Burns, 1990].

Reducing Long-Term Unemployment: Policies and Prospects

Any discussion of labour market policies must grapple with the often conflicting objectives of equity and efficiency. The evolution of labour market policies in the OECD countries [OECD, 1988*a*] suggests that the policy process was traditionally concerned with efficiency and used supply-side instruments such as training, placement, and increased mobility. However, the 1974-76 recession led to unprecedented levels of unemployment (as well as high inflation) in many of these countries. The slack labour market conditions and sluggish economic growth led to the adoption of employment promotion policies that were non-inflationary in nature, such as marginal employment subsidies. The prolonged and severe recession of the early 1980s again altered the policy outlook. The emergence of a non-neutral unemployment crisis (by age and other characteristics) led to the view that the assistance should be more targeted. The present policy position of many OECD governments is to assign distributional or equity functions to labour market programs, directed at alleviating the impact of unemployment on those most severely affected, the long-term unemployed.

Current Canadian Policies

The policies that could be undertaken to reduce LTU fall under two broad categories. The first category consists of policies designed to reintegrate the long-term unemployed into the work force. In the second category, the older long-term unemployed could be given the option of early retirement. Given the predictions of Canada's future demographic profile, the second option is not a desirable one and should be a last resort policy. For this reason, the

focus of this section is on policies whose aim is to reintegrate the long-term unemployed into the productive work force.

One method is to introduce measures that increase their competitiveness. This could include specific placement and counselling activities, and training. Alternatively, policies could be directed at employment creation programs that are targeted at the long-term unemployed. These could include employment subsidies, the encouragement of self-employment, and direct employment creation by governments.

The Job Development Program of the Canadian Job Strategy

All labour market programs to aid the unemployed in Canada can be accessed by the long-term unemployed. However, these general programs may not be adequate to deal with the unique requirements of this group. The major program in Canada that is dedicated exclusively to serve the needs of the long-term unemployed is the Job Development Program, part of the Canadian Job Strategy (CJS).

The Job Development Program is intended to reintegrate the long-term unemployed into the labour force. It combines elements that increase their competitiveness and provide employment opportunities. The specific aim of the program is to provide training and work experience to individuals who have been out of work for at least 24 of the last 30 weeks and who are referred through a Canada Employment Centre. The program consists of four options:

1 The General Projects option — Training is provided at an educational institution, or on the job under appropriate supervision, or both. This option provides commercial employers up to 60 per cent of wages to a limit of $7.50 per hour with a weekly maximum of $350 per participant. Non-profit employers are paid up to 100 per cent of wages to a limit of $7.50 per hour with a weekly maximum of $300 per participant. In addition, there are subsidies for staff, training, capital, and operating costs. These projects are for a maximum of 52 weeks.

2 The Individually Subsidized option — Training programs are designed to meet the specific needs of employment disadvantaged individuals who are long-term unemployed and have other social and cultural barriers to employment. The training is provided by a sponsor who submits a comprehensive proposal. The subsidy provisions under this option are similar to those of the General Projects option with one important exception. The wage subsidy declines over the life of the project, starting at 80 per cent of the wage for a maximum of 13 weeks and decreasing to 25 per cent for the last 13 weeks.

The project cannot last more than 52 weeks and the subsidy payments are limited to a maximum of $350 per participant per week.

3 The Severely Employment Disadvantaged option — Employment is provided on a community project to those individuals identified as having problematic work habits, attitude or motivational problems, a serious lack of education or training, prolonged periods of institutionalization, functional illiteracy, or long periods of drug or alcohol abuse. The community projects include municipalities and Indian band councils. All subsidies provided under this option are at much higher levels than under the other options. Wages are subsidized at 100 per cent to a maximum of $350 per week. The program duration for this option is up to 52 weeks but participation in the CJS by individuals in this category can be up to three years.

4 The Direct Purchase option — Occupational training is provided in provincial educational institutions. The aim is to increase employment opportunities and earnings potential by meeting the skill requirements of prospective employers.

Performance of the Job Development Program

A significant number of the long-term unemployed participated in this program, particularly during the period 1986-87 (Table 11). It also appears to be an inexpensive program. In 1988-89, for example, 89,000 people or about 42 per cent of the long-term unemployed participated in the Job Development Program at a cost to the federal government of $480.7 million.

The program seems to be having some success. For example, the results of a one-year follow-up survey for 1987-88 indicate that the impact rate – the percentage of participants who were employed or were in training after their participation in the Job Development Program – was 62.1 per cent. In addition, three-month follow-up surveys for April to December, 1988 show that the skill utilization rate – the percentage of employed participants who are using skills acquired in the program – was about 74 per cent. About 80 per cent of the program participants in 1987-88 said that the program would help them keep their present jobs or obtain new or better ones in the future.

A recent study [Goss, Gilroy & Associates Ltd., 1989] examined the impact of the Job Development Program using five criteria: employability, average weekly earnings, proportion of time spent on unemployment insurance, wages when working, and hours worked. The methodology used for this assessment included econometric analysis that used administrative data and post-program surveys. The results indicate that the program had a generally favourable impact on employability. Wage gains were observable in the

Table 11

Job Development Program of the Canadian Job Strategy, Canada, 1985/86-1988/89

	(1) Number of long-term unemployed	(2) Number of people who participated in the program	(2)/(1) Long-term unemployed who participated in the program	Total expenditures
	(Thousands)		(Per cent)	(Millions)
1985/86	322.8	96.1	29.7	326.6
1986/87	293.9	186.9	63.5	834.2
1987/88	269.2	110.0	40.8	596.8
1988/89	210.7	89.0	42.2	480.7

SOURCE Employment and Immigration Canada, *Annual Reports* (various years); Statistics Canada, *The Labour Force* (quarterly averages).

case of participants in the Individually Subsidized option, but not for participants in the other options. Although the results indicate that the post-program time spent on unemployment insurance increased, the favorable post-program employment patterns suggest to us that for a large number of participants, the unemployment spells may have been short. The survey of the employers also indicated that the amount of displacement caused by the Job Development Program was negligible.[10]

The Job Development Program thus appears to be a relatively efficient way of reintegrating long-term unemployed individuals. It also responds to equity considerations by shifting the demand for labour towards them, thereby raising their incomes.

Concerns with the Job Development Program

There are two concerns with the current design of the Job Development Program. The first relates to the eligibility criterion for admission into the program, and the second is the absence of specific targeting of older long-term unemployed workers.

Eligibility Criterion — The current eligibility criterion for the Job Development Program is that the individual must have been unemployed for at least 24 out of the last 30 weeks. This "24 out of the 30" rule has been questioned. For example, the Standing Committee on Labour, Employment, and Immigration [1988] has recommended 1) that the "24 out of the 30" rule be waived

for a minimum of 10 per cent of program participants in each region of Canada, and 2) that individuals residing in areas where the average unemployment rate exceeds one and one-half times the national average not be required to satisfy the "24 out of the 30" rule. The government has accepted the first recommendation, and rejected the second on the grounds that it cannot be reconciled with the present scope and intent of the CJS.

Corak [1990*b*] examines the question of the eligibility rule of the Job Development Program. The conclusion of this paper is that the six-month waiting period may be too long. A more reasonable waiting period might be four months. The conclusion is based on the estimation of the probability of exit from unemployment. The analysis suggests that an overwhelming majority of unemployed individuals are likely to get out of unemployment by the fourth month of their unemployment spells. After about four months, the probability of leaving unemployment becomes low and remains relatively constant up to about 10 months. Thus individuals who are likely to become long-term unemployed can be identified in about the fourth month of their unemployment spells. The case for a six-month waiting period is then weak.

Targeting Older Workers — The Job Development Program does not specifically target older workers who are long-term unemployed. Yet the evidence in the section "Demographic Trends" indicates that the proportion of the long-term unemployed among this group has risen considerably over the recent business cycle. In addition, they have unique difficulties in leaving unemployment. Not only have they been unemployed for a substantial period of time, which in itself acts as a deterrent to finding a job, but the fact that they are old also reduces their probability of reemployment. Employers are often reluctant to hire these individuals because of the perception that the cost of hiring and retraining them may not be justified by their tenure. The Job Development Program, then, needs to pay special attention to older workers who fall into the long-term unemployed category.

The Reintegration of Older Workers

In Canada, the reintegration of older workers takes on particular relevance when the current and projected demographic profiles are considered. The Canadian labour force is aging. *Legacies*, the 26th Annual Review of the Economic Council [1989], suggests that the share of the 20-64 year olds in the total population will decline from 60 per cent in 1988 to about 50 per cent in 2040. Older workers will have to play an increasingly important and productive role in this environment. It is, then, in the national interest to ensure the full participation of these individuals. The reintegration of older workers is also recommended in *Good Jobs, Bad Jobs*, a 1990 report of the Economic Council. This report emphasizes the role of a positive reintegration strategy based on retraining and job search counselling.

Current Programs for Older Workers

The major Canadian labour market policy addressing the needs of severely disadvantaged unemployed older workers – the Program for Older Worker Adjustment (POWA) – is compensatory in nature. POWA is run by both federal and provincial governments, and provides income support (approximately $600-$1,000 per month) to workers aged 55-64 who have lost their jobs in a major layoff, who are still unemployed after exhausting their unemployment insurance entitlement, and who have no realistic prospects for reemployment through regular training or mobility assistance programs. There is no adjustment component per se to the program. Programs like POWA tend to be expensive and often have very restricted coverage [*Good Jobs, Bad Jobs*, 1990]. Moreover, this type of program also ignores the potential for productivity of the older workers.

Some of the more recent programs have emphasized the reintegration of older workers. For example, projects under the Outreach program, run by the Employment Services of Employment and Immigration Canada, serve the long-term unemployed and older workers, among other groups. This program enlists the aid of community-based organizations to extend employment services to clients whose needs are better served through these projects than by the Canada Employment Centres. In 1988-89, thirteen projects were created for the long-term unemployed and eight projects assisted older workers.

Another program, run by the Ontario government, is Transitions, which provides financial incentives to workers of 45 years and older to take advantage of training and retraining opportunities as a means of facilitating their reemployment. Each participant is provided with $5,000 in training credits, valid over two years, which can be used either against formal and verifiable training expenses incurred by an employer who undertakes to train the participant, and/or against tuition fees for courses offered by public or private training institutions. The number of applicants for admission into this program was 1,900 in the 1988-89 fiscal year, of whom 1,300 were approved, and 850 had received training. The number of applicants during April 1989 to December 1989 was 1,800, of whom 1,300 were approved, and 1,000 were in training. The program budget in the fiscal year 1988-89 was $4 million. All indications are that the program is in demand [*Good Jobs, Bad Jobs*, 1990].

Policy Innovations

One policy innovation that might be desirable is to make the targeting of assistance to the older workers preventive in nature. For example, ex ante assistance could be provided in identifiable scenarios such as a permanent layoff, or closing down of a factory, which will displace a large number of

older workers. We suggest that the principles of the Transitions program be extended to all other regions in Canada. In addition, the regional nature of the LTU problem in Canada suggests that placement and counselling services would be most effective at the local level. To this end, one policy instrument could be the formation of "job clubs" [OECD, 1988*a*] that could include volunteers from local business and community organizations as well as previously long-term unemployed individuals who have succeeded in finding jobs.

The policies addressing long-term unemployed older workers should also take into account both efficiency and equity considerations. One way to do this would be to increase the level of employment subsidies for older workers, as is the case in Australia and Germany [OECD, 1988*a*]. This instrument would have the effect of increasing the incentive to hire older workers. Another method is providing part-time employment. This may be particularly applicable to those older workers whose skills are in less demand and do not justify full-time employment. In a similar vein, the OECD experience suggests that schemes to generate self-employment have had encouraging results. However, it has also been found that self-employment promotion schemes have been more successful for those whose unemployment has been of short duration, and whose skills have not been seriously eroded. Here too, the ex ante identification of unemployed older workers who might be prone to long-term unemployment becomes an important consideration.

Conclusions

The relatively low level of LTU in Canada (compared with the overall unemployment situation) should not be a source of comfort. There has been an increase in the proportion of the long-term unemployed (in the total unemployed) over the recent business cycle and there is a high probability this proportion will increase further during the next economic downturn. This pattern, together with the uneven distribution of the burden of LTU – particularly across age categories and regions – and the concentration of time spent unemployed among the long-term employed, provide important reasons why LTU should become an important focus of Canadian labour market policy. This conclusion is reinforced by the implications of LTU for labour market adjustments and the "scarring" effects such unemployment inflicts on individuals.

The Job Development Program of the Canadian Job Strategy, combined with the Canada Employment Centres, currently provide a comprehensive set of inter-linked services for the long-term unemployed. While they have generally performed well, improvements could be made to the design of the programs. For example, the current eligibility criterion (unemployment for

24 weeks out of the last 30) could be shortened to four months. This earlier identification will prevent further skill erosion. More importantly, there is a need within these programs to specifically target the older workers. It is this group who are most prone to LTU and in most need of help.

The rising incidence of LTU among older workers is a major source of concern, particularly in view of their large projected demographic weight in the future labour force. This concern is compounded by the decline in their exit probabilities over the recent business cycle. While in the short run a compensatory program might ease the burden of these workers, in the longer run their reintegration into the regular work force deserves special policy attention. These reintegration efforts need to encompass elements that not only increase the competitiveness of the long-term unemployed, but also provide, at least in the initial stages, employment for these individuals.

The regional differences in LTU experiences are one manifestation of the changing nature of jobs resulting from structural changes. Declines in raw resource prices, the energy-price shocks, and increasing international competition have translated into a rationalization of Canadian industries that has profoundly affected the nature of employment. The mismatches arising out of this rationalization process, combined with the severe recession in the early 1980s, have resulted in long spells of unemployment for some workers. In short, the labour demand characteristics have been at least as important as the characteristics of individual workers in determining the persistence of unemployment. Current policies addressing the plight of the long-term unemployed need to recognize the diversity of regional experiences.

Appendices

Appendix A

Table A-1

Logit Estimates for the Probability of Long-Term Unemployment, 1986[1]

Variables	Reference group	Coefficient	Standard error
Constant		–0.101*	0.102
Age: 17-19	35-44	–0.781*	0.104
20-24		–0.338*	0.073
25-34		–0.006	0.058
45-54		0.119***	0.074
55-64		0.442*	0.090
Female	Male	–0.121*	0.048
Single	Married	0.157*	0.056
Other marital status		0.351*	0.051
Non-head	Head	0.218*	0.051
Education			
Elementary	Secondary	0.288*	0.087
High school		0.067	0.073
Postsecondary		–0.119	0.092
University		–0.395*	0.118
Student		–0.767*	0.075
Region			
Atlantic	Ontario	0.660*	0.067
Quebec		0.481*	0.075
Prairies		0.150**	0.071
British Columbia		0.570*	0.083
Reason for separation			
Temporary layoff	Other separations	–0.927*	0.172

*Significant at the 1-per-cent level.
**Significant at the 5-per-cent level.
***Significant at the 10-per-cent level.

1 Dependent variable:
1 = if long-term unemployed (unemployed for more than six months during the year);
0 = otherwise.

SOURCE Based on Statistics Canada, *Labour Market Activity Survey*, 1986.

Appendix B

The Relationship between Changes in the Unemployment Rate and the Proportion of Long-Term Unemployment

This appendix provides an econometric test of the hypothesis that changes in LTU are strongly related to the movements in the unemployment rate.

Several alternative specifications are proposed in the literature about testing the relationship between LTU and unemployment rate. For example, Franz [1987] suggests that LTU can be seen purely as an indicator of the persistence in unemployment. He proposes the following relationship to test for persistence:

$$LTU_t = a_0 + a_1 S_{i=1} U_{t-1}, a_1 > 0, \qquad \text{(B-1)}$$

where LTU_t is the proportion of LTU in total unemployment, and U_{t-i} is past unemployment rates.

Nickell [1987] proposes a test that allows for a dynamic pattern:

$$LTU_t = b_0 + b_1 LTU_{t-1} + b_2 U_t + b_3 U_{t-1} + b_4 U_{t-2}. \qquad \text{(B-2)}$$

In this formulation, as the unemployment rate rises, the proportion of LTU initially falls ($b_2 < 0$). In the long run, the proportion of LTU rises with unemployment ($b_3, b_4 > 0$).

The formulations used in this appendix to test for the relationship between LTU and unemployment rate combined elements from both (B-1) and (B-2). It was posited that LTU is mainly determined as a function of the unemployment rate with a one-year lag and changes in this rate. This specification was chosen after some experimentation. The response of LTU to the lagged unemployment rate provides some indication of persistence and the response to the changes in the unemployment rates provide some indication of the dynamics. Our estimation of the relationship was constrained by data. The annual time series data was not available for sufficiently long periods. As a result, quarterly data was utilized for estimation purposes. The equation estimated was:

$$LTU_t = d_0 + d_1 U_{t-4} + d_2 (U_t - U_{t-4}) + d_3 TT + e_t. \qquad \text{(B-3)}$$

The definition of LTU used here is the proportion of the unemployed who have been unemployed for a year or more in total unemployment. U_{t-i} (i = 0,4) are the past unemployment rates and TT is the time trend capturing the impact of all the other variables influencing LTU.

Table B-1 reports the results of the estimation of equation (B-3) for Canada as a whole, and the different age groups – youth, prime-aged, and the older workers. The age-specific unemployment rates were used in estimating equation (B-3) for each of the age groups. All the equations were estimated using the Cochrane-Orcutt technique to correct for serial correlation.

The results suggest that most of the LTU can be explained by the movements in the unemployment rate a year ago and the change in this rate during the year. The most significant explanatory variable is the four-quarter lagged unemployment rate. For Canada, on average, one percentage point rise in the unemployment rate a year ago causes the present LTU to rise by 1.07 per cent. A major result of the estimations is the higher coefficient of the lagged unemployment rate for the older individuals.

Table B-1

Determinants of Long-Term Unemployment, Canada, OLS Estimates, 1976-87

	Total 1976-87	Youth (15-24) 1977-87	Prime age (25-54) 1977-87	Older worker (55-64) 1977-87
Constant	–5.98	–0.064	–0.05	–0.07
	(5.80)	(9.67)	(8.97)	(4.93)
U_{t-4}	1.07	0.63	1.53	2.71
	(9.02)	(12.99)	(13.43)	(7.33)
ΔU	0.30	0.33	0.31	0.66
	(2.81)	(7.44)	(3.02)	(2.13)
TT	0.10	0.0001	0.001	0.001
	(6.52)	(1.74)	(4.84)	(2.87)
R^2	0.97	0.87	0.96	0.90
DW	1.79	1.71	1.22	1.49
SEE	0.50	0.01	0.01	0.02

Note Figures in parentheses are absolute *t*-ratios.

Notes

1 The duration of unemployment data used here comes from the Labour Force Survey (LFS). The duration of unemployment is defined in the LFS as the number of continuous weeks during which a person is considered to be unemployed. One problem with this duration data is that it reports information on incomplete or in-progress spells of unemployment. This may lead to an underestimation of the average length of the completed spells of unemployment. Nevertheless, the survey provides illuminating information on the incidence of LTU in Canada.

2 The data on LTU for the Prairie provinces was not available before 1983.

3 We also examined the incidence of LTU by other demographic characteristics and found that:

– in terms of gender, the male workers, particularly the older males, experienced more LTU;

– in terms of marital status, the male married group suffered a greater proportion of LTU;

– in terms of educational level, the least educated individuals were more susceptible to LTU.

The industry and the type of occupation in the last job held was also significant. Although the incidence of LTU is now higher in every industry and occupation, workers in the goods-producing industries experienced a relatively higher incidence than those in the service industries.

4 For methodological details and data descriptions see Corak [1990*a*].

5 The gross flows data are based on the LFS in which one sixth of the sample is rotated in each month and is surveyed for the next five. This means that five sixths of the sample is identical in any two consecutive months and can be matched to trace a person's labour force experience in terms of employment, unemployment, and not-in-the-labour-force for the current and the previous months. This matched data constitutes the gross flows data set. For more details, see Hasan and de Broucker [1985].

6 The annual exit probabilities were calculated as averages of quarterly exit probabilities. The quarterly exit probabilities were calculated in the following way. For the short-term unemployed, the probability is measured by comparing the stock of those unemployed for three to six months with the stock of persons unemployed for less than three months at a

point three months (a quarter) earlier. For the long-term unemployed, the probability is measured by comparing the stock of persons unemployed for a year or more with the stock of persons unemployed for six to 12 months at a point six months (two quarters) earlier. The formula used is as follows:

$$\frac{U_{t-1}^{(1)} - U_t^{(2)}}{U_{t-1}^{(1)}}$$

where $U(i)$ is the number of unemployed for i months/years or more at time t.

The appropriate $U_t^{(2)}$ in the case of the long-term unemployed would have been the number of individuals unemployed for 12-18 months. However, unemployment data for this particular duration was not available. We used the data for those unemployed for 12 months or more as a proxy. Our judgment is that most of those unemployed for 12 months or more would in fact fall into the category of 12-18 months.

This method of computing exit probabilities does not control for the influence of other factors such as the characteristics of the individuals. Nevertheless, it provides a general idea of the chances of escaping from unemployment.

7 This argument is based on the evidence in Economic Council of Canada, *Good Jobs, Bad Jobs* [1990].

8 As one of the referees points out, the measures of the severity of the mismatches should include evidence on the duration of unemployment as well as the duration of the vacancies. The duration of vacancies provides a notion of the labour demand situation. However, we did not have such data, and we are not aware of the existence of such a data base.

9 Gera [1988] discusses the role of policies such as wage subsidies on the unemployment-inflation trade-off in some detail. He suggests that the wage subsidy policies, by targeting those workers who are relatively disadvantaged because of high unemployment, less bargaining power, rigid wages, or other characteristics, place no upward pressure on wage costs in the aggregate. Thus unemployment could decrease without any attendant increase in inflation. This phenomenon has often been referred to as "cheating the Phillips Curve" [Baily and Tobin, 1977].

10 For a detailed discussion on this point see Gera [1988].

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